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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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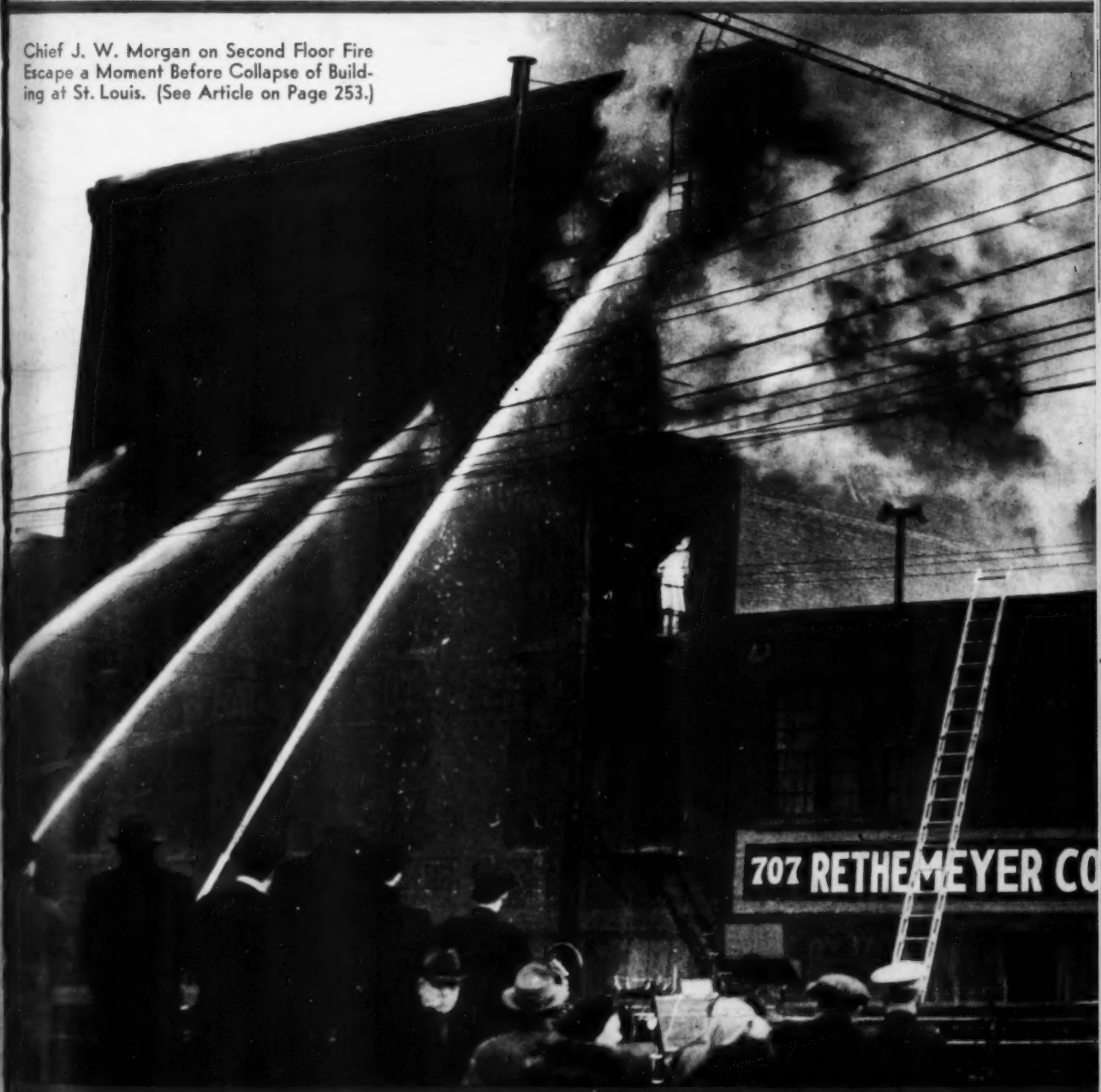
MAY, 1943

Vol. 96, No. 5



Chief J. W. Morgan on Second Floor Fire Escape a Moment Before Collapse of Building at St. Louis. (See Article on Page 253.)

A CASE - SHEPPERD - MANN PUBLICATION

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In practically all of our armed services, in practically all branches of our home front, the Emerson Resuscitator has distinguished itself in the saving of valuable life. The fire service in particular has been quick to see the merit of this dependable and easy-to-use product, so necessary to every fire department in their duty—the saving of life.

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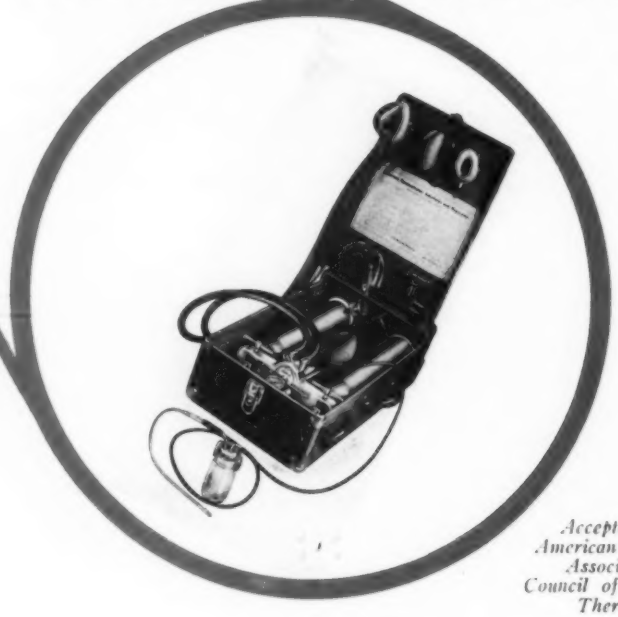

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- **Powerful tone volume.**
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The system that gives full protection regardless of weather, topography, and local noise levels.

FEDERAL experience in air raid warning systems goes back to the early days of the war, when our engineers went to Europe and proved our system under actual air raid conditions. Since that time our engineers have made installations in many American cities—installations that have proved their effectiveness in test after test.

The FEDERAL System—a multiplicity of small sirens, closely spaced—will give your community *maximum protection at minimum cost.*

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

CONTENTS

Vol. 96 May, 1943 No. 5

	Page
With the Editor	241
Trial Proves Criminal Negligence at Cocoanut Grove Fire By Alton H. Blackington	242
Practical Training for Auxiliary Firemen By Fred Shepperd	247
War Production Board Order Limits Types of Apparatus	250
Fire Chief Loses Life in Building Collapse at St. Louis	253
The Round Table Advantages and Disadvantages of Steel Helmets	255
Questions and Answers	257
The Watch Desk	258
Manufacturers' Announcements	259
False Alarms	260
What's Burning	266
Warfare	270
On the Book Shelf	273
Convention Dates	277
Correspondence	278

FRED SHEPPERD
Editor

NEWS for NAZIS!

AS this issue goes to press, the news from Tunisia is all to the good! (Good for the cause of freedom, not for the Nazis!) Most of the world is rejoicing.

- In hoping that the big push will continue as successfully as it has started, let's give a thought to the problem of *supplies*.
- Have you stopped to think what it must mean, say in terms of food and water, to have 75,000 prisoners suddenly added to your mess? (Mess is right.)
- The potatoes and other staples that you need, and can't get, are being shipped for just such stupendous tasks—feeding our own forces, our allies and now, our prisoners. No one will begrudge a little sacrifice at home.

Paper, too

- What started us on this theme is the fact that the government has asked FIRE ENGINEERING to issue a word of warning about the increasing paper shortage. The basic supply is decreasing. Will you help by conserving use of paper and urging those with whom you may come in contact, through inspection work, to save?

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the tenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th Street, New York City, also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price U. S. and Latin America, $2 a year; Canada, $2.50; Foreign, $3; Single copies, 25c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1943, by Case-Shepperd-Mann Publishing Corp. ¶KARL M. MANN, President; I. HERBERT CASE, Vice-President and General Manager; W. J. GIBSON, Eastern Representative; WM. H. TOPHAM, Circulation Manager. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 6 No. Michigan Ave.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd. ¶Printed in U. S. A.

A CASE-SHEPPERD-MANN PUBLICATION
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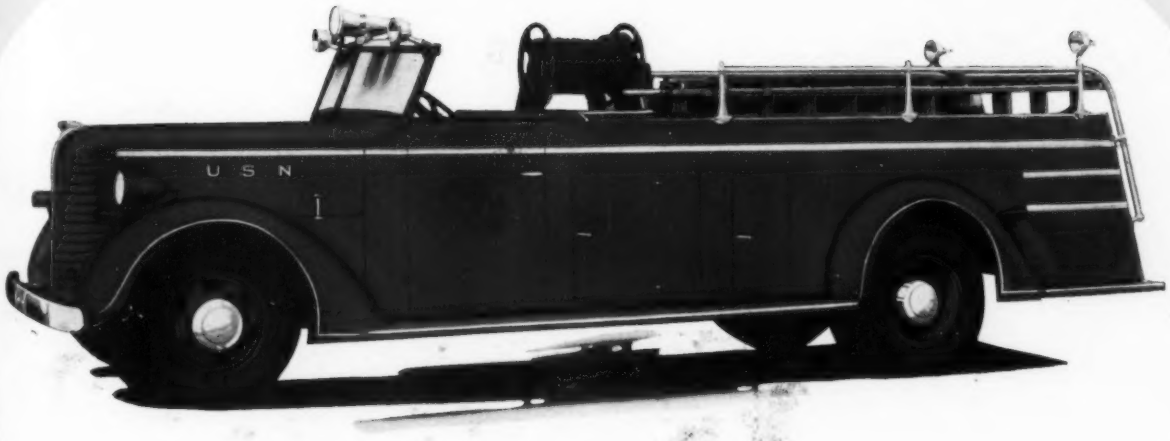

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FIRE DEFENSE for the ARMED FORCES

★ ★ ★

BUFFALO FIRE APPLIANCE CORPORATION

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THE most important Ward LaFrance wartime assignment is pictured above. It is a completely equipped ten-ton Tank-Recovery Wrecker unit. These tough, powerful, big fellows were a logical job for Ward LaFrance, because almost everything about them is "special". Like Ward LaFrance fire apparatus, they are built to meet unusual requirements with unfailing dependability.

Most of our manufacturing facilities are devoted to these tank-recovery trucks, and special pumpers which we are turning out for the armed forces. However, we have so far been able to continue making special civilian fire fighting units. If your need is urgent, please write us about your requirements. We shall be glad to give you full information on obtaining specially engineered equipment, and the proper procedure in securing necessary authorization to purchase it.

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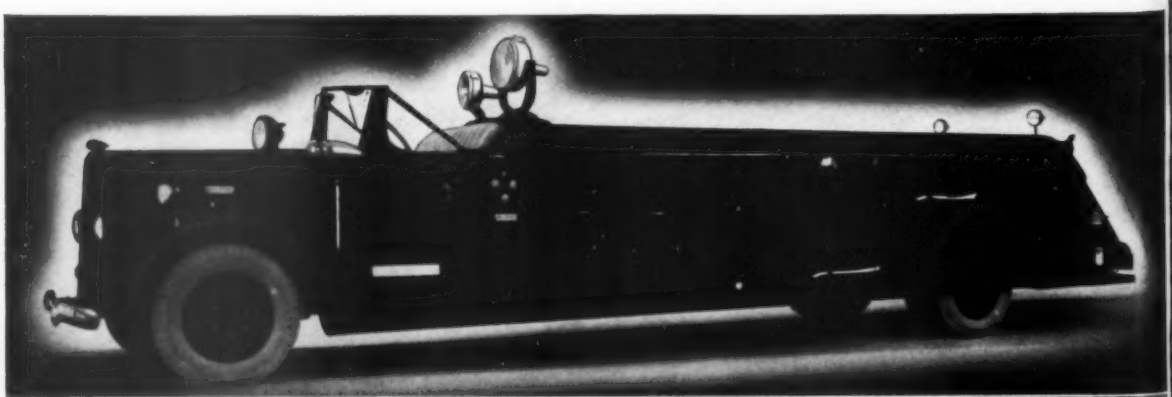

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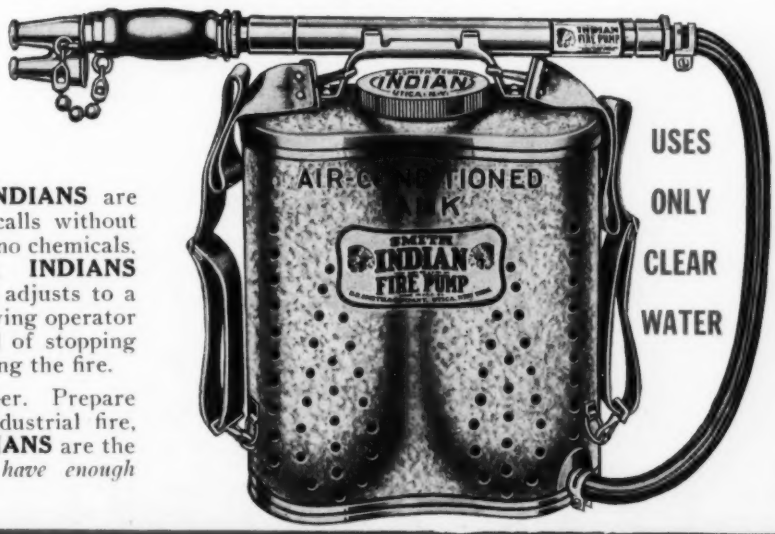
IN THE THICK OF THE FIGHT WITH INDIAN Fire Pumps

Professional firemen will be doing a service to industrial plants which ask their advice on fire fighting equipment if they recommend INDIAN FIRE PUMPS. Thousands are in use in factories, public utilities, shops and warehouses throughout the country.

Whether It's an Enemy Fire or a Routine Call INDIANS *Will Do the Job . . .*



THE fire department with an ample supply of **INDIAN FIRE PUMPS** is in excellent shape to handle *all* of the emergencies of wartime fire protection. **INDIANS** are fast. They will take care of 70% of your calls without using hose. **INDIANS** use clear water only—no chemicals. Any water supply serves for quick filling. **INDIANS** throw 30 to 50 ft. pressure stream or nozzle adjusts to a spray. **INDIANS** carry slung on the back allowing operator complete freedom of movement without need of stopping to pick up extinguisher as he goes about fighting the fire.

Fire hazards will multiply with warm weather. Prepare now. Whether the job be an enemy set industrial fire, oil, grass, rubbish or other Class A fire, **INDIANS** are the outfits to use. Order now. *Be sure you have enough* **INDIANS.** *Catalog on request.*

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Simple to use—Foille is applied direct to the wound or burn. Free flowing—it may be used by sponge, brush or spray gun.

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Foille is analgesic and antiseptic. An application at time of injury brings quick comfort to the victim and reduces initial shock.

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When necessary, Foille can be simply and speedily removed after the patient is placed under hospital care.

MSA FOILLE BURN KIT *FOR RAPID EMERGENCY USE*

Contains a liberal supply of Foille for burns, in jars which connect direct to efficient spray gun* for fast application—together with unit-packaged First Aid dressings and accessories, including sterilized muslin sheet. Strongly-cased for long service.

*When the spray gun (employing critical materials) is no longer available, these kits will be equipped with three 1⅜" camel's hair brushes for speedy application of Foille. Spray guns will again be included when available.

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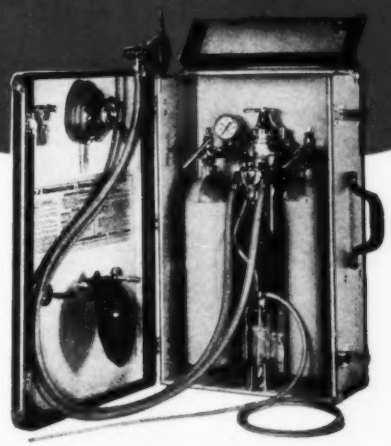
These are a few of the many outstanding industries which know from experience that effective artificial respiration calls for the dependable . . . .

E & J
RESUSCITATOR INHALATOR and ASPIRATOR

FIRST CHOICE IN FIRST AID



WHEREVER artificial respiration is used to save lives — on the military and home fronts as well as in industry — you'll find a decided preference for the E & J resuscitator, inhalator and aspirator.

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E & J time-tested superiority — its long record of dependable performance — is the result of our many years of specialized experience in mechanical artificial respiration, coupled with sound engineering practice and precision workmanship.

When lives are at stake you can't afford to take chances with anything but the best. Play safe with E & J.

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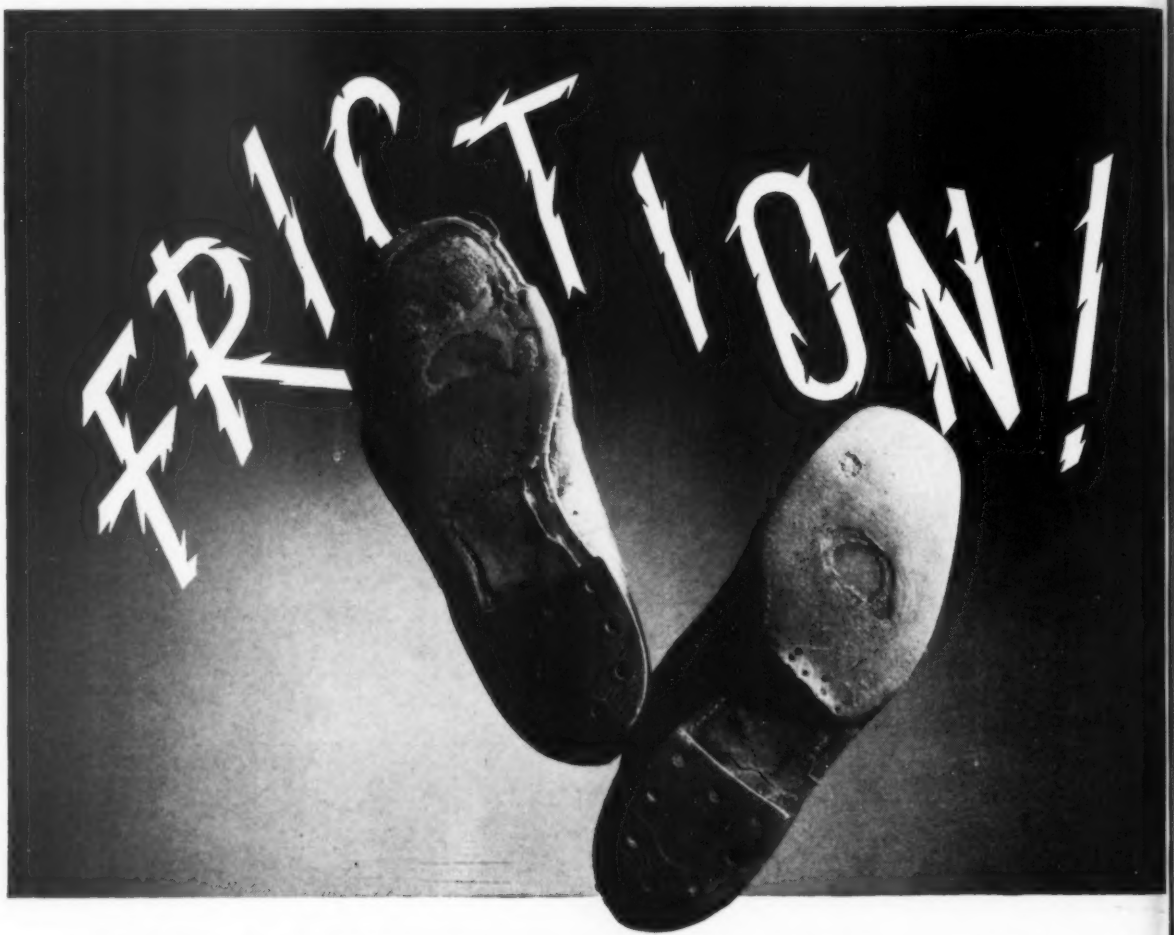

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Undue motor wear, waste of fuel and excessive carbon have no place in a sound preventive maintenance program. At the same time, "production" must be speeded up. That's why operators simply must pay more than usual attention to motor lubrication . . . and motor *cleanliness.*

Macmillan RING-FREE Motor Oil cuts down waste and wear while speeding up performance, and at the same time, RING-FREE removes carbon!

In 1094 Certified Road Tests, with various makes of owner-driven cars, 10 per cent increases in gasoline mileage were not uncommon after crankcases were drained and refilled with RING-FREE. As indicated by these tests, the average immediate saving was 1.3 miles per gallon! These tests emphasize that RING-FREE lubricates better . . . *reduces friction faster.* It delivers direct to the drive shaft more of the horsepower ordinarily wasted in overcoming motor friction. It postpones "down-time" for repairs.

Macmillan RING-FREE Motor Oil combines all these qualities: great film strength, high heat resistance, long cling to metal, fast penetration . . . *plus* the fact that it is non-corrosive, is less affected by dilution and it *removes carbon.*

CARBON REMOVAL A NATURAL RING-FREE FUNCTION

Macmillan RING-FREE Motor Oil actually removes carbon while the motor runs! Hence, by its continued use, pistons, rings, valves—all vital parts—stay cleaner. Carbon removal is a natural function of RING-FREE, inherent in the crude oil and retained by the exclusive Macmillan patented refining process, *without the use of additives.*

TO SUM UP: MACMILLAN RING-FREE gives more horsepower to the drive shaft—tangible saving of fuel—allows less wear on hard-to-replace engine parts—it removes carbon.

Macmillan Petroleum Corporation

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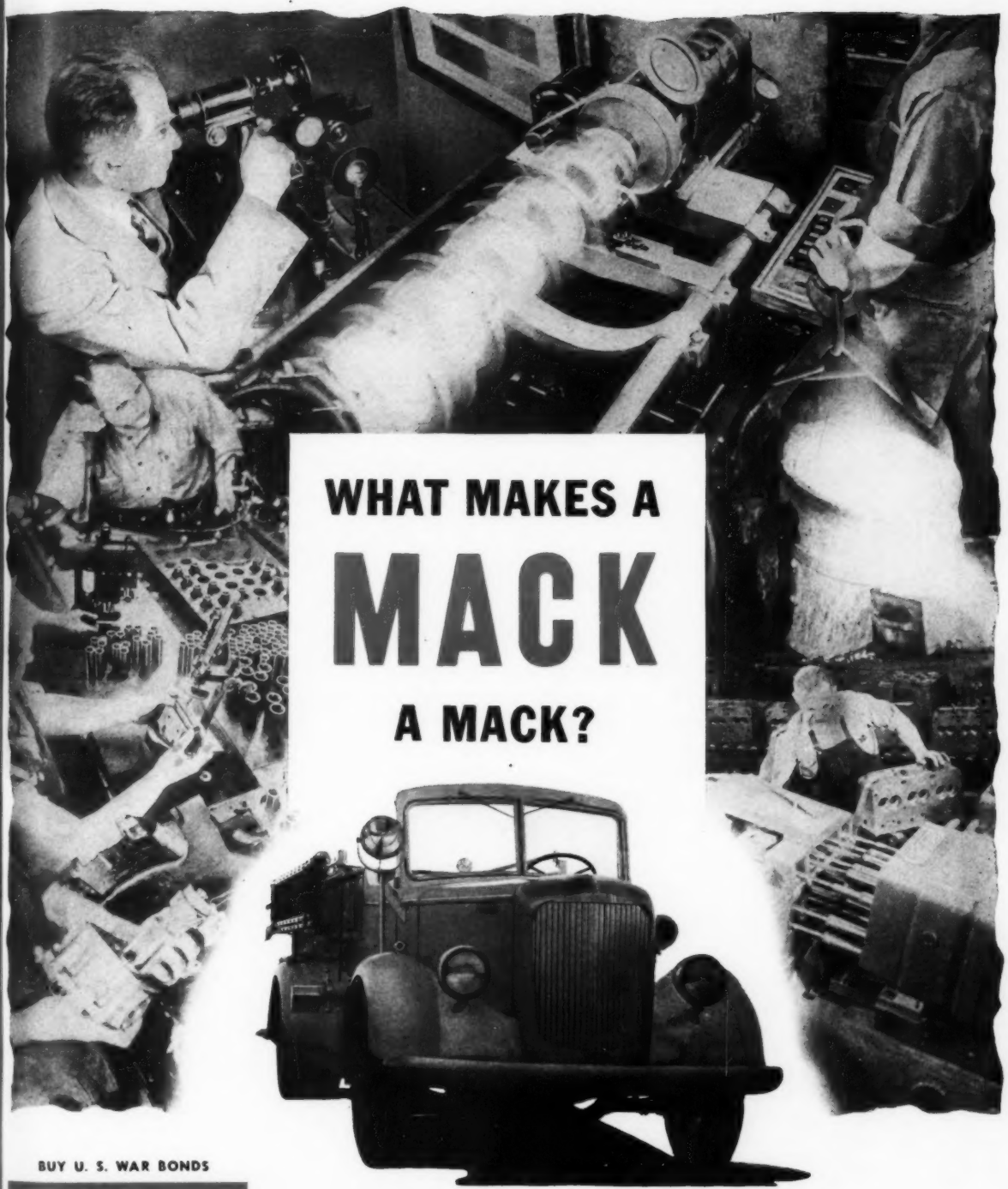
MACMILLAN RING-FREE MOTOR OIL

REDUCES WEAR BY REDUCING FRICTION



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Mack
FIRE APPARATUS

It's the greatest engineering and manufacturing resources in the Fire Apparatus Industry.

It's the hands and skills of thousands of workers trained to work to the highest standards and closest tolerances in the industry.

It's the experience of more than 42 years of designing, building and controlling the quality of Mack apparatus through every stage of manufacture from raw materials to finished product.

It's the more than 70 direct factory branches that provide service and parts nearby the communities where Macks are on the job.

MACK MANUFACTURING CORP. · FIRE ENGINE DIVISION · LONG ISLAND CITY, N. Y.

NEW SQUEEZ-GRIP

Heretofore, time and gas were wasted when using a hand-wheel type valve for carbon dioxide extinguishers. Hence, for All-Out action against fire a fast and a gas saving type of release was required; an extinguisher that could be controlled while being carried . . . without the delaying time incident to setting a cylinder down to open or close the hand-wheel; a valve that would release the gas just as quickly as it could be shut off. The new C-O-TWO Squeez-Grip valve combines all these requirements.

SQUEEZ-GRIP IS A SENSATIONAL NEW RELEASE

It represents another of C-O-TWO's contributions to fire protection. With over a decade and a half of carbon dioxide fire extinguishing experience, C-O-TWO originated this all-inclusive Squeez-Grip valve. Carbon dioxide, the fastest non-damaging fire extinguishing agent, can now be released at the base of a fire as *fast as you can close your hand.* Fire is smothered in seconds, without damage to materials or equipment.

C-O-TWO is listed by the Underwriters' Laboratories; fully approved by Factory Mutuals and the Bureau of Marine Inspection and Navigation. C-O-TWO is a registered trademark. To be safe specify C-O-TWO.

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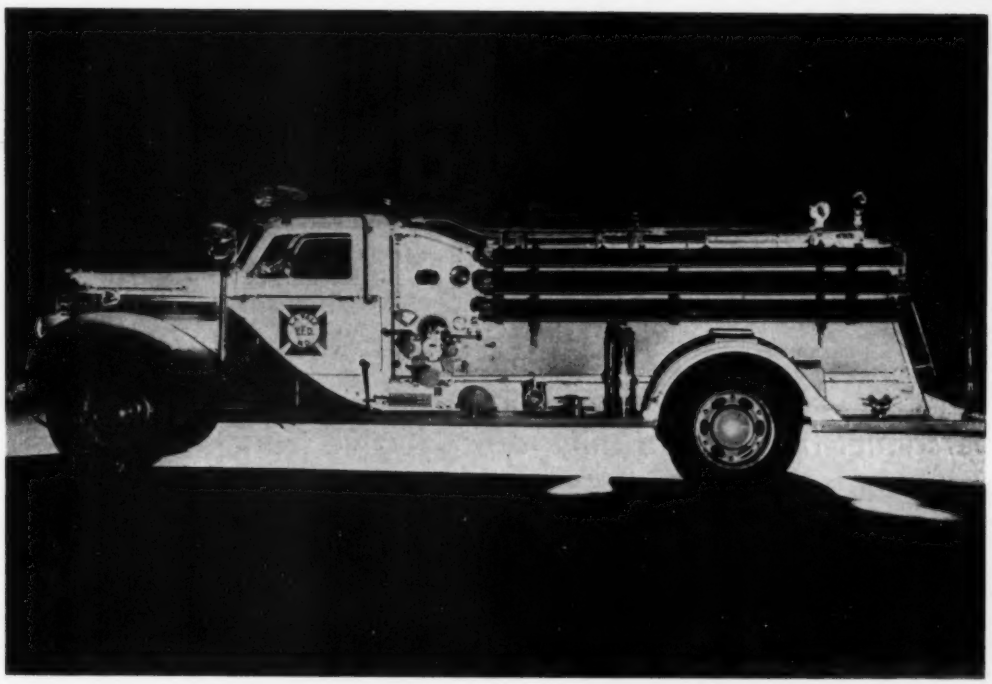

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FIRE APPARATUS DIVISION

of Roanoke Welding & Equipment Co., Inc.
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helps to MEET THE MANPOWER PROBLEM
...has enabled many concerns to release personnel from guard duty to productive work

Every able-bodied man assigned to guard or watchman duty is one more man removed from productive work. To help solve increasingly acute manpower problems, increase the extent and efficiency of protection and effect operating economies, many firms have adopted A.D.T. Electric Protection Services—the modern, automatic safeguard against the hazards of fire, intrusion, sabotage, burglary, and the production stoppages and other devastating results of such casualties.

These services, functioning *automatically*, afford maximum protection with minimum guard forces. Adoption of A.D.T. Protection has made it possible for hundreds of plants to eliminate or substantially reduce their guard forces—not only releasing manpower for productive work, but also getting better protection and effecting substantial savings.

We shall be glad to make a survey of your particular protection problems, without cost or obligation. ★ ★ ★

Invisible Ray Alarm (Photoelectric): Projects beams of invisible light across indoor or outdoor areas. Interruption of beam automatically summons guards and police.

Telapproach (for boundary protection): Electronic devices establish a continuous electrical field adjacent to a boundary. Entrance of any person or vehicle into the electrical field automatically summons guards and police.

Burglar Alarm: Electric Protection for doors, windows, skylights, etc.

Aero Automatic Fire Alarm: Automatically detects fire at its start, and automatically summons the fire department.

Sprinkler Supervisory and Waterflow Alarm: Automatically detects and reports trouble conditions, whether caused by accident or sabotage, that might impair the sprinkler's effectiveness. Automatically summons fire department the instant a sprinkler head opens, or in case of a dangerous leak.

For further information on these and other A.D.T. Protection Services, write to A.D.T. Executive Offices, 155 Sixth Avenue, New York.

A.D.T. ELECTRIC PROTECTION SERVICES

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Ave., New York*

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A·D·T *Electric Protection Services*
AGAINST FIRE · BURGLARY · HOLDUP
A NATION-WIDE ORGANIZATION

We Engineered This Collision

so you can use water to fight oil fires!

Water is your ideal fire-fighter — but, before WaterFOG, water could never be used effectively on oil fires.

Now Rockwood *engineers* water . . . turning solid stream into fog much finer than spray . . . to create WaterFOG for fighting flammable liquid fires.

WaterFOG Capitalizes on This Important Principle—

Speed of heat absorption increases with surface area exposed. Volume for volume, tiny WaterFOG droplets have many times the surface area of ordinary-sized drops, so they *cool* the fire many times faster.

WaterFOG droplets, being *light*, stay longer in the combustion area, rapidly absorbing heat from the burning vapors and quenching the flames. Instead of plunging into the liquid, agitating it, they float gently onto the surface, lowering the temperature of the liquid to retard further vaporization.

Then, changing into steam, WaterFOG *expands*, enveloping the fire in a quenching, smothering blanket.

"Flash-back" is prevented. Costly chemicals are saved. Water damage is lessened. Safe to use on electrical fires. Write for Bulletin 123.

3 WAYS TO PUT OUT FLAMMABLE LIQUID FIRES

1. **Quench the burning vapors**
2. **Lower liquid temperature to retard vaporization**
3. **Diminish supply of oxygen**

WaterFOG does all three... with water... faster!

WaterFOG is created by impinging streams from specially-designed Rockwood nozzles — engineered in correct particle size, fog pattern, and velocity for your conditions. Fixed piping installations, hose nozzles and applicators. Rockwood installations approved by Underwriters' Laboratories and Associated Factory Mutuals, used by Navy, Coast Guard, hundreds of industrial plants. *Executives!* A moving picture film, in color (16 mm.) showing tests of Rockwood WaterFOG is available.

ROCKWOOD WaterFOG

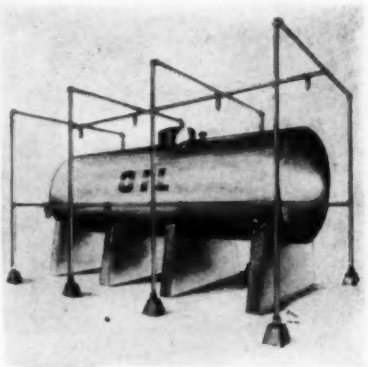
ROCKWOOD SPRINKLER COMPANY
54 Harlow Street, Worcester, Mass.
Specialists in Fire Protection Engineering, Equipment and Installation since 1907.

Water Engineered by Rockwood Cools, Confines, Smothers Oil Fires

FIXED PIPING INSTALLATIONS FOR EACH SPECIAL HAZARD

Full protection against flammable liquid fires is obtained when a WaterFOG system of fixed piping, heads, valves and automatic control devices is planned and installed by Rockwood engineers.

Skillful engineering assures complete WaterFOG extinguishment on fires in fuel oil, kerosene, mineral spirits and other flammable liquids. Rockwood engineers consider all factors involved in each hazard, including spacing of WaterFOG heads, distance between heads and hazard obstructions, etc.



This drawing shows a typical WaterFOG system engineered to protect an oil storage tank efficiently. Completely automatic systems can be installed for instantaneous fire detection and quick extinguishment.

Portable WaterFOG unit, consisting of nozzle with applicator, is designed for service on regular fire hose lines, projecting low-velocity WaterFOG in "ball" shape. With the applicator removed and a Fog tip inserted, medium velocity WaterFOG is discharged with considerable forward projection; or a solid stream is also provided.

Men of ACTION!

. . . ON THE WAR FRONT

. . . ON THE HOME FRONT

● They both must have the tools to do the job right. Give the soldier the tanks, the guns and the planes. . . . Give the firemen the dependability of Seagrave Apparatus.

Yes, Seagrave is a fighting weapon. . . . A precision, especially designed weapon that meets and conquers man's worst enemy, fire.

Firemen know from experience that when they have Seagrave Apparatus they are adequately armed to meet any emergency. . . . They know that there's no substitute for Seagrave engineering skill and mechanical perfection.

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SEAGRAVE

THE GREATEST NAME IN FIRE APPARATUS

OFFICIAL U. S. NAVY PHOTO

THE WORLD'S FASTEST AND ONE OF THE MOST EFFECTIVE NAVAL STRIKING FORCES—

—P.T. boats are now equipped with the CLARK inhalator—life saving apparatus built to withstand the roughest kind of usage!

When it comes to saving the lives of our fighting men, the best is none too good and there are no substitutes worthy of the task at hand.

The CLARK Inhalator is so constructed as to absolutely prevent any chance for error in human judgment or lay-down on the part of the apparatus.

Send for free literature to convince yourself that the best is none too good in protecting the lives of the men in your department.

CLARK DUPLEX

★

If it's a **CLARK** *it's a* **LIFE SAVER**

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DELAYED ALARMS - *deadlier than Sabotage*

R. M. HOLLINGSHEAD & CO., CAMDEN, N. J. FIRE

ENCOURAGE THE PROMPT USE OF FIRE ALARM BOXES

"When Fire Occurs—Call the Fire Department"?

Of Course, any Child should know the answer, it is elementary—but adults who are responsible for the safety of life and property and for the safety of materials urgently needed for the National Defense frequently overlook it.

The record is replete with instances where the Fire Department was not promptly notified—a delay of 15 minutes in the case of one of the greatest steamships afloat; a delay of 6 minutes or more in the case of a fire which destroyed rubber and buildings valued at $11,000,000.00; and 1⅙ minutes delay in the case of a waterfront fire destroying a million dollars in property value are typical cases.

The Fire Department may be called (1) by the fire alarm box, (2) by telephone, or (3) a messenger may run to the nearest fire station frequently a mile or more distant from the scene of fire. Time, however, is the vital factor when fire is menacing human life and destroying property and the Fire Alarm System, according to all authorities, provides the swiftest and most dependable means of calling the fire department.

•

Scarcity of materials renders expansion of Signaling Systems difficult — but the effective use of all existing boxes should be encouraged. Their purpose and locations can be made known to all citizens — and the preparation of plans for the future expansion of this vitally essential protection can be immediately initiated.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS, MASSACHUSETTS

FIRE ENGINEERING

MAY, 1943 VOL. 96. NO. 5

With the Editor

The Threat of Panic

Panic is unpredictable. It may occur when least expected and without reasonable cause. Because of its spontaneity, it is ever a hazard where numbers of people congregate.

It requires little to start a panic. The hissing of steam from a radiator in a theatre, the shout of "fire" by a boy during the showing of an aerial combat film in a motion picture theatre, and the scream of a theatre patron upon seeing a mouse at her feet all resulted in fatal panics.

Recently 178 persons met death in a London air raid shelter panic when a woman carrying a child tripped at the bottom of a flight of stairs, and caused a stampede.

The elimination of panic is impossible, but the chances of its occurring may be reduced by education of the public in safety measures to be taken in the event of emergency. Further, the provision of proper protection for the public where they commonly congregate in large numbers will do much to provide a feeling of security, which is to a degree an antidote for panic.

* * *

I. A. F. C. Conference

Even at this early date, indications are beginning to point to a large conference of the International Association of Fire Chiefs at Chicago on August 31-September 3.

A fine program is being rounded out, and assurance of cooperation by the various federal bureaus interested in fire defense has already been obtained. The Governmental Bureau of the War Production Board will be represented, as will also the Fire and Safety Equipment Section of the War Production Board. Thus the many problems arising as a result of priorities will be aired and, it is hoped, solutions thereto, attained.

The Office of Civilian Defense will have two key men on hand to discuss various phases of civilian protection. The Navy, Coast Guard and Internal Security Division are also scheduled to be represented in the program to discuss fire protection measures in the Navy, the Merchant Marine and waterfront storage.

Other speakers will discuss fire protection and fire fighting in connection with defense industries.

A visit to the Underwriters' Laboratories is also planned. This will prove a very instructive tour, for the visitors will have an opportunity to see how fire tests are conducted on building materials, and how many other fire and safety tests are carried out.

All in all, the prospects seem particularly bright for an outstanding wartime conference.

Fred Sheppard

Trial Proves Criminal Negligence At Cocoanut Grove Fire

Owner Sentenced on Manslaughter Charge; Many Safety Regulations Violated

By ALTON H. BLACKINGTON

OF the ten men indicted as a result of the fire that took 491 lives in the Cocoanut Grove Night Club in Boston, Mass., on Saturday night, November 28, 1942, four were placed on trial Monday, March 15, 1943, in the Suffolk Superior Court, Boston, before Judge Joseph L. Hurley.

The four defendants were: Barnet Welansky, principal owner; James Welansky, his brother, acting manager; Jacob Goldfine, wine steward; Lieutenant Frank J. Linney, of the Fire Prevention Bureau of the Boston Fire Dept.

The two Welansky's and Goldfine were charged with manslaughter. Lieutenant Linney was charged with willful neglect of duty and being accessory after the fact of manslaughter.

Shortly before the drawing of the jury started, Attorney William H. Lewis, counsel for the fire inspector, moved that Linney be tried separately. In a surprise move, Attorney General Robert T. Bushnell offered no objections, and Lieutenant Linney was eliminated from the trial.

Proceedings had hardly got under way when counsel for Defendant Goldfine requested a delay because his client was stricken ill with "some type of skin malady." Medical Examiner Timothy Leary was rushed to the hospital where Goldfine was confined and after examination ordered him to appear in court immediately.

Selection of the twelve jurors was completed at 8:13 P.M., the twelfth juror drawn being the fifty-second talesman examined by Judge Hurley.

There was a sharp clash between counsel and a setback for the defense when Prosecutor Bushnell moved that the jury be taken for a "view" of the Cocoanut Grove ruins. Defense counsel said, "The jury will convict these innocent men if they see that frightful wreckage . . . this would be highly prejudicial. The Cocoanut Grove is a thing of the past. The firemen made a wreck of the place."

Jury to View Ruins

Attorney General Bushnell argued that a view would be helpful to the jurors in getting an understanding of the night club from a structural standpoint. He said, "One reason the defense does not want a view is because alterations were made there without permits. The Melody Lounge was erected on a permit calling for certain firedoors, and we want the jury to see where those doors should have been."

Judge Hurley ruled that the jurors should visit the scene of the holocaust because "the jury can understand what are the results of a fire."

The judge announced that the jury would be confined in a Boston hotel for the duration of the trial.

Thus ended the first long day of the proceedings.

After an inspection of the fire-gutted premises, on March 16, the jury heard Prosecutor Bushnell's preliminary outline of the State's case.

History of Night Club

He traced the history of the night club and offered to show that on the night of the fire, exits were locked and boarded up, windows were barred, automatic fire doors called for by plans on which building permits were issued were non-existent, the place was overcrowded, and "the whole thing constituded a trap in which lives were taken as a result of gross, wanton and willful acts and failures to act on the part of these defendants."

In elaborating his accusations, the Attorney General stated he would offer proof of the following:

In 1942, after the Melody Lounge had been created, one of its walls had been knocked out without a permit and to enlarge the bar, and a new cocktail lounge had been created. The Grove had been expanded until it took in four buildings, 59-65 Piedmont St. and 4 and 6 Shawmut St. In building the new cocktail lounge, permits were applied for on plans calling for automatic firedoors—but there were no such firedoors.

Premises Overcrowded

The license application listed thirty fixed stools, but there were double that number along the Caricature Bar and nineteen at the Piedmont Street bar, making a total of seventy-nine. The application listed 100 tables, 400 chairs, but there were 409 chairs on the main floor and the Caricature bar, not counting those in the Melody Lounge or the new cocktail bar, and fifty-six movable stools not mentioned in the application. In addition, there were seats for 161 in the lounges, and at the time of the fire the establishment was so crowded that people were standing several deep at the bars.

The new lounge was opened without a single firedoor and there was never any intention of putting them in.

There was a lack of exits, doors which opened inward, the much-discussed revolving door, doors or windows which had been locked or boarded up or covered by draperies, and openings in which firedoors were supposed to have been installed but in which tables and chairs had been placed to accommodate more customers. An exit sign over one door was a trap because the door was locked and the key was in a box in the club office under the supervision of Goldfine. Bodies were piled up at a two-and-one-half-foot-wide door which was locked with a panic lock and a tongue lock. Doors opened in against persons trying to get out. Chairs and tables were placed across doors which could not be got at until these obstacles were removed.

Attorney General Bushnell stated that the evidence would show that the fire started when a sixteen-year-old boy working there nights despite his age lighted a match in his attempt to replace a light bulb, but that the Government was not interested to show the cause of the fire, nor whether the victims died of flame, gas, trampling, or otherwise.

The Government, he explained, was interested to show what duties owed the public attending the Cocoanut Grove with or without a fire, were not fulfilled. The Government's contention was that involuntary manslaughter was committed, resulting without intent but with a willful and wanton and gross disregard of duty on the part of defendants. "If one is under obligation to do something for the protection of another, and he does not perform that duty, he may be guilty of manslaughter."

Concluding his opening of the case the Attorney General stated the issues were: "What did the defendants do and what did they fail to do that they should have done—What was the Cocoanut Grove—Who constructed it and how—Who owned it—Who was responsible for it?"

On the first day of testimony, 10[illegible] photographs of the various parts and accessories of the nightclub were admitted over objection of Defense counsel by Judge Hurley, who advised the jurors to consider them only to the extent of showing the structure of the premises and warned that conditions shown in the photographs were obviously the result of fire, and to "disregard the positions of all movable objects such as chairs, tables, etc."

Waiter Testifies

On March 19, the first eye-witness story of the fire was given by Morrill S. Guerin, who had been a waiter at the Grove for two weeks. He was asked:

"Did you observe a door in the Shawmut Street wall?"

A. Yes.

Q. How did it open?

A. It swung inward.

In answer to questions, he testified that nothing was over the door, but that tables were set up on each side of it s[illegible]

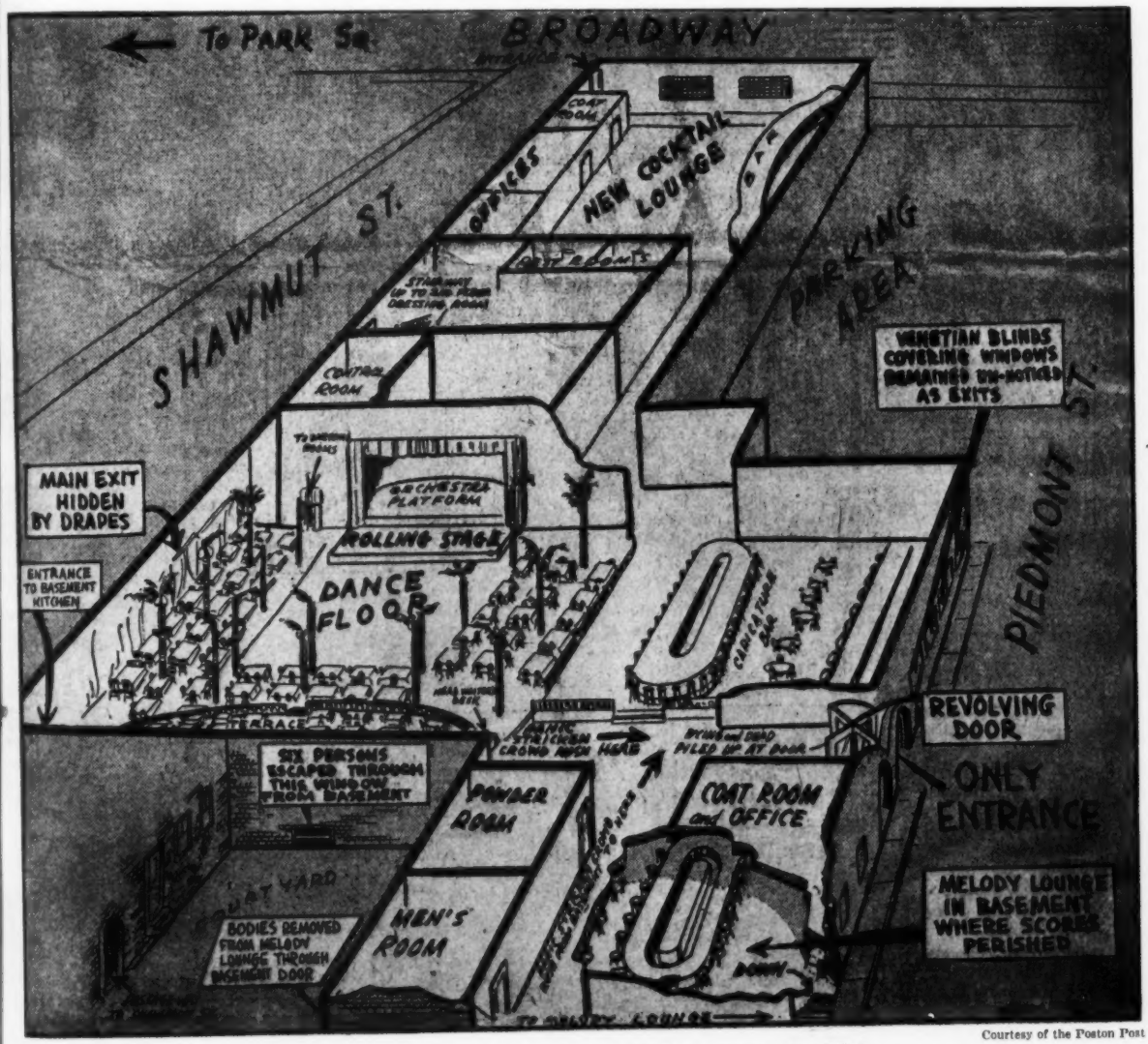
that people sitting at those tables were sitting in front of the door. He did not observe an exit sign over the door. After fire broke out, he was knocked down on the service stairs leading from the kitchen, and somebody seized him and yanked him into the street.

Testimony was given relating to the license for the new cocktail lounge at the Grove. Harold Kenniston, who was a clerk at the Boston Licensing Board last November said that on the afternoon of November 17, with the new lounge scheduled to open that evening, the Grove did not have a license covering the new lounge. He said he was directed to call the Cocoanut Grove to ask that the license be brought in for amendment. About five o'clock it was brought in by James Welansky who said that his brother Barnett was ill in a hospital. The clerk inquired if the new lounge had been completed and was "according to Hoyle." Mr. Welansky said, "Yes," and the clerk extended the license to include the lounge, and took it to Miss Driscoll, Chairman of the Board, and she signed it.

Chief Bos'n's Mate Raymond N. Carter, United States Coast Guard, testified in regard to crowding of the Grove on the evening of the fire. He had gone to the Melody Lounge, but "all the tables and chairs were full, people were standing at the bar." His party went upstairs to the main dining room to dance. Tables were set so close together that he and his friends had to twist and turn between tables to get to the dance floor. Later, when he attempted to leave the building by the revolving door, people "were piling up against the door." He continued, "I know there was a window behind the Caricature Bar. You wouldn't know it was a window but I had seen it before." He could not find anything to break the window, then a blast of heat hit him and he "went through the window." The roar was "like a lot of blow torches pushing the heat up."

Another service man, Chief Machinist's Mate James W. Lane, U.S.C.G., also testified as to the crowded condition of the night club, stating that there was not enough room in the coat rooms to check his clothes, and he finally left them in the office. In the Melody Lounge "people were standing up at the bar two, three and four deep." As to the spread of the fire, he said "It came from the ceiling, it spread wedge-shaped and very rapidly." People were "jammed up" in the stairway, and he saw no other way to get out.

Presumably to prove the contention that the defendants had failed to do what they were "under obligation to do for the protection" of patrons, Charles Kalchhausel, a waiter at the Grove since 1934, was put on the stand. He stated he had never been given any instructions as to what to do in case of fire. The service entrance was locked at 6 P.M. after all the help had arrived for work, and he had never seen the exit door at the top of the Melody Lounge stairs opened. There were Venetian blinds



Courtesy of the Poston Post

Diagram of Night Club in Which Almost 500 Persons Were Killed

Diagram shows the layout of Cocoanut Grove. Note particularly in the corridor leading to the Piedmont Street door entrance how two lines of panic-stricken persons met to create a condition which added greatly to the shocking toll.

over the door leading into Shawmut Street, and tables were placed on either side of that door so that people seated at them would be in front of the door. He escaped because he dropped a load of dishes and "skiddooed."

The door to Shawmut Street figured in the testimony of other witnesses.

Leo S. Giavanetti, acting captain of waiters, said the "usual set-up" was for the exit door to Shawmut Street to be half-blocked by a table, and, further, that on the night in question, this exit door was locked.

Exits Blocked

This witness also told the jury that there was an exit door to Piedmont Street from the cloakroom, but that this exit was blocked by a hatrack which was fastened in place, but was removable. A coatrack was brought into the courtroom, and Giavanetti identified it as having been fastened against the exit door in the cloakroom.

A checkroom girl testified that she had considered removing the rack from across the door, but her hair caught fire and she left the coatroom and went to the revolving door. She was pushed out the door, but her partner in the checkroom did not get out.

A patron of the night club, Frederick Wayland, stated that he and his wife wished to dance, but the floor was so crowded they gave it up and returned to their table. He went to the men's room and found "there were two or three dozen waiting to get in." He sat near the Shawmut Street door, referred to previously. A waiter and busboy asked a couple to move from the table in front of that door. Only half the door was open, and the opening was narrow. The couple who had been asked to move, and the Wayland party of three, went out by that door. He saw "heavy red flame which rolled up from the direction of the Piedmont Street entrance like a wave breaking on a beach."

Later testimony was given that a sailor and a waiter together swung a table against the door and broke open the other half. It is interesting to note here that another witness, William Fiorito, waiter, stated that another door, the service door at 6 Shawmut Street, was broken down by him, assisted by two other waiters, and that they used planks to do it.

To give testimony that the Cocoanut Grove was improperly equipped in addition to being overcrowded, and irrespective of the fire, the Prosecution put on the stand several experts.

Permit Not Obtained for Wiring

According to Bernard B. Whelan, superintendent of the wiring division of the Boston Fire Department, no permit was issued for installation of wiring at 59-65 Broadway, part of the Grove premises, in 1942. It is the routine of this department, he said, that applicants for permits for electrical work must be licensed electricians, and that inspectors report on the back of such permits on the work done. If the work is approved, a permit to turn on the current is issued. On hearing, about November 6, that work was being done at the Grove, Mr. Whelan sent a letter to the Cocoanut Grove stating that a permit must be obtained. Ten days later, a second notice was sent.

Mr. Whelan identified the communication sent to the Grove on November 7, and also produced bulbs, fuses and a cocoanut husk wired with a light socket which he said were taken from various parts of the Grove after the fire.

This witness said he had been over the wiring thoroughly, found "a neon job" that was defective, but stated that nothing in his inspection led him to determine that the fire was caused by defective wiring, and that the cocoanut husk, found hanging in a palm tree in the corner where the fire is presumed to have started, did not reveal any short circuit.

There was considerable evidence in regard to conversations held when the wiring job in the new cocktail lounge was undertaken, witnesses differing considerably on this point. Testimony showed that wiring was done by Raymond Baer, now employed as a shipfitter. He had also done electrical work at the Grove the year before. He installed light fixtures or plugs in various sections of the bar, floors, ceiling, walls, and he ran wiring from all these fixtures to a fuse panel. Introduced as evidence were two pieces of burned board, to one of which was attached a tube light with wiring, and to the other were attached two fixtures which the witnesses said are used to hold a light similar to the one on the other board. These were stated to have come from the Melody Lounge where Baer said he had installed such lights.

Baer testified further that he did not have a permit to do the wiring, and that he did not give any notice to the Fire Commissioner.

Frank H. Kelly, city wire inspector, testified that in his opinion the general condition of the wiring in the Cocoanut Grove was very good. He identified fuses as being found in the Grove. Some of the fuses were blown, and Mr. Kelly said he believed the heat from the fire had blown them. He had found an electric cable "broken down" and short-circuited, but believed the fire or heat was the cause.

Bad Wiring Practices

More critical of the electrical wiring at the Grove was the executive secretary of the State Board of Examiners of Electricians, Harrison C. Witherell, who enumerated things which he found and does not consider good practices.

Among these were: stranded wires which were not soldered, wires installed with wrong polarity, lamp sockets not connected to ground wires and therefore alive, an air conditioning unit without a ground wire and much too large to be connected to ordinary plug service, cables laid over steam and water pipes, and "live" terminals against wood without insulations. Cables over steam pipes were insulated with rubber, and should never be used where heat is over 120 degrees. The temperature of steam at zero pressure, he said, is 220 degrees. Black bubbles on some cables indicated to him that the cables had had a heating other than from the fire of November 28.

Mr. Witherell testified that he found a cable behind the wall partition at the corner of the Melody Lounge, where the fire was supposed to have started. Wood and studs at that corner were deeply burned, and the partition showed burning on the inside.

He said that no wires in the Cocoanut Grove building should take over a 15-ampere fuse, and that the use of 20, 25 and 30-ampere fuses, such as were found in the place, would be "over-fusing" which allows over-loading of a circuit.

It was the opinion of this witness that "it is hard to understand why they hadn't had fires before."

Several witnesses placed the start of the fire in a corner of the Melody Lounge. Some of them had noticed, just previous to the outbreak of the fire, that someone was reaching up to a light bulb in that corner, which was dimly lighted.

These stories seem to corroborate the testimony of Stanley Tomaszewski, sixteen-year-old High School senior, that a match lighted by him was probably the immediate cause of the fire.

Bus Boy's Story

Stanley Tomaszewski had gone to work at the Grove as a busboy about six weeks before the fire, and later was assigned by Goldfine to work as a bar waiter in the Melody Lounge. On the night of the fire, eleven or twelve tables were assigned to him, all filled, and he had to edge his way through people to service him.

A bartender yelled instructions to him to fix a light in a palm tree in the corner. The light was off.

The boy told his story. "I went over and there was a group near the corner and somebody told me to leave the light off. I said I had instructions to put it on and I got up on a stool, lit a match to see the bulb, turned the bulb and the light came on. I got off the stool and blew out my match and started to walk back toward the bar. Somebody yelled fire and I turned around and the corner was afire. The palm tree was blazing and the ceiling was ablaze." The fire, he said, "spread like a wave, running across the ceiling like a wave."

The witness was shown a fire- and smoke-blackened stalk about eight feet long, bare of palm frond or cocoanut, which he identified as looking like the palm tree in which he fixed the light.

On March 30, with the trial two weeks old, the Prosecution brought out facts in regard to the construction of the night club premises, and the condition of doors on the night of the fire.

George A. Curtin, architect, testified he had studied the ruins of the Grove, and checked the layout with the approved plans for the new Cocktail Lounge. These plans as approved by the building department, called for four fire doors at various points, but he could find no evidence that they had ever been constructed. There were to be four openings in the wall between the foyer and the main dining room. On the foyer side there was to be a swinging automatic fire door. There was to be an opening four feet wide between the new cocktail lounge and the main dining room, and the opening was to be equipped on either side with automatic closing fire doors. There were no fire doors at either opening.

Other differences included different locations of washrooms and the absence of a passageway without obstruction to an indicated door on Shawmut Street.

Testimony concerning the revolving door of the Grove, to Piedmont Street, was interesting.

Charles J. Baldotti said he went to the Grove with a party of thirteen. When he started to go into the building, he

"got into one of the compartments of the revolving door." The door started around, and stopped at a point where his compartment was within the framework, and he could neither enter the club nor get back to the street. Then the door suddenly collapsed, and he stumbled to the sidewalk.

Mrs. Ruth Strogoff, whose husband died in the fire, told a dramatic story of trying to pull him up after he fell down on the stairs. People piled on top of him so that she could not help him. She reached the revolving door, pushed against it, but could not open it. She believed the door was locked. A man broke out the glass in the door with a stool and she crawled through the opening.

Revolving Door Functioning Improperly

Others told of being "pushed through" the revolving door. One man said the pressure of the crowd at the door appeared to be so great that the door cables broke and the door swung open.

Previous reference has been made to the exit door near the head of the stairs from the Melody Lounge. This was the closest upstairs exit to the Melody Lounge. It was stated that this door was supposed to be equipped with a "crash-lock" which is to permit opening of the door by pressure against it.

Fireman William A. Hughes of Ladder Company 12 testified he tried to open the door and it wouldn't open. He forced it open with his axe. In answer to questions, he stated that there was a tongue lock on the door, and that the lock was in locked position when he got the door open. Asked, "What did you do then?" the fireman said, "When the door opened heat and smoke poured out and I dropped to my knees to let it go over my head. I looked in through the smoke and saw the body of a woman only about a foot inside." Then, he said, he crawled in, found a pile of twelve to fifteen bodies, and brought them out.

After that, he was ordered to go to the roof to open up vents for heat, gas and smoke. He tried to open the sliding roof, which provided the main dining room with an unobstructed view of the sky in summer, but the roof would not slide. He identified the door and a portion of the framework, which he said showed marks of his axe.

Testimony of Deputy Chief McDonough

On the fifteenth day of the trial, as Assistant District Attorney Frederick T. Doyle wound up the case for the Prosecution, Deputy Chief John F. McDonough of the Boston Fire Department, veteran of thirty-eight years' experience, was called to the stand. The horror of the Grove fire was still so vivid in his mind that he spoke in a voice shaken by emotion, and at one point broke down and sobbed, which brought tears also from some of the spectators.

He told of plunging through the Piedmont Street door at the head of his men and groping his way through the smoke. He heard a voice asking for water, and put his flashlight in the face of a Navy officer. He carried out the Navy man, then went into the club, where "bodies were spread around." He was told by another deputy that on the other side of the building there were bodies "piled up worse than they are here."

He ordered a fifth alarm sounded because his men "were showing signs of being affected by the smoke, gas and the gruesomeness of things."

In answer to questions, McDonough said there was a ventilating fan on the wall opposite the stairs leading down to the Melody Lounge, and another in the foyer near the entrance to the main dining room and nearly opposite the revolving door. The tendency of the fans in the Melody Lounge, he said, would be to make a chimney out of the stairway and sweep the flames up it. If the fans were working, their tendency would be to sweep the flames along toward the main dining room and into the rest of the structure.

Asked about the cloth ceiling in the Melody Lounge, he told how it hung about eighteen inches below the concrete ceiling, so that the air space on either side of the cloth would accelerate the pace of the fire.

District Chief Charles D. Robertson, Boston Fire Department, testified that he took charge of forces on the Broadway side of the building. He described in detail the finding of bodies piled up in various parts of the building. Some, he said, "were in various stages of consciousness. Some were inert, some were moving an arm or a leg." Some were still sitting in chairs at tables, as though they had lost consciousness where they sat. In places the bodies were "all tangled up with tables and chairs—in one heap—and we had to separate them to get the bodies out." He answered "No," when asked if he saw any fire doors or any indication that fire doors were ever there. Several final witnesses testified very briefly.

Mrs. Rose Ponzi Gnecco, who kept the books and had charge of the payroll at the Grove, testified that various keys to Grove doors were kept in a box, sometimes in the safe and sometimes in her desk.

An inspector of the State Police stated that he found, in the passageway along the side of the main dining room, a door which had been bricked up. Firemen had reported finding twenty-five bodies in that passageway.

Fire Commissioner Reilly, called as a witness, denied that he had ever given permission to anyone to use inflammable decorations on the premises of the Cocoanut Grove.

At the end of the day, the government concluded its case, having called ninety-five witnesses. The defense at this point had the alternative of proceeding with the trial and offering defense evidence, or resting on the state's case. They elected to continue. As yet, there was no definite indication what the defense arguments were to be, but Attorney Webber in his opening to the jury offered to show that Goldfine "at most . . . was the custodian of the liquor . . . he had nothing to do with management policies" which indicated a "lack of responsibility" defense for Goldfine.

Lieutenant Linney Testifies

Among witnesses called by the defense was Lieutenant Frank J. Linney of the Fire Department, the man who inspected the night club premises eight days before the fire, now under indictment for manslaughter, and who was originally scheduled to stand trial with Barnett and James Welansky and Jacob Goldfine. He answered each question with the same response, "On advice of counsel, I refuse to answer on the ground it might tend to incriminate me.'

John W. Bradley, bartender, stated he had instructed sixteen-year-old Stanley Tomaszewski to fix the light, which was out, in the corner of the Melody Lounge. He did not see the boy light a match, but soon after, he saw the fire, grabbed the palm tree attempted to stamp out the fire, and called for water. He threw water on the ceiling, but the fire "spread like a flash." Asked what happened then, he said, "There was an awful commotion, hollering and screaming and push-

Main Entrance on Piedmont Street. Some of the Guests Escaped Through Windows of this Building

ing. The crowd jammed up and I was pushed against the bar. My head felt hot and I put up my hands and my hair was on fire. I put the fire out with my hands."

Under cross-examination, the bartender said he had never received any instructions as to what to do in case of fire.

Panic Lock Defective

Louis Cohen of the arson squad of the Boston Fire Department said he had examined a "panic lock" after the fire and found it defective so that it would not open the door. He said he found three fire extinguishers in the debris, one of which had been used.

A later witness, Stanley Robinson, who conducts a fire equipment business in Boston, testified that he supplied the Grove with six fire extinguishers last September or October and that there were ten others there at the time, which he recharged. He had been servicing the Grove for fifteen years, and those six extinguishers were the first sold them in that time. The six were secondhand extinguishers, due to the fact that extinguishers had not been made for a year, but their being "rebuilt" would not affect their usability, he said.

The court refused to admit as evidence the hospital record of Barnett Welansky, ill in a hospital at the time of the fire, and also a report by Lieutenant Linney as to the Grove, dated November 20, eight days before the fire.

Defense witnesses stressed again and again the panic inside the night club after fire broke out, apparently to show that deaths in the Grove were due to panic of the patrons. One said, "Everybody got up from their tables. And it was every man for himself."

Panic Caused Death

Along this same line was the story of Herbert Schwartz, who said he is a member of the auxiliary police. He was in the neighborhood of the Cocoanut Grove on the night of November 28, 1942, and was watching a fire in an automobile when he saw a man running and crying "fire." He went to the Broadway entrance of the new Cocktail Lounge, he said, and started to help get people out of that doorway, but "it was impossible. They were jumping on top of each other, crowding and yelling."

Asked to describe the crowd, he replied: "The crowd was just mad. There was no controlling them whatever." Then he told of seeing a woman pulled back into the building. "People were trampling on each other. They were screaming and yelling. It was just a wild panic, and there is no other way to put it. One would get to the door and others would pull him back. It was the same with men and women."

Cross-examined, Schwartz stated he had known one of the defendants, Barnett Welansky, for ten years, that he did not appear as a witness at the Fire Commissioner's hearing, but a few weeks ago did "communicate" with Attorney Daniel J. Gallagher, counsel for James Welansky. Asked whether anyone had told him to repeat the word "panic, panic, panic," he said, "No."

Mrs. Eleanor Casella, checkroom girl, and William Payne, singer at the Grove, both testified that the crowd was panic-stricken, and both stated they had noticed empty tables in the night club before the fire. "Billy" Payne told of trying to calm the patrons, and of leading about twenty people to the icebox, from which they were later rescued by firemen.

The most dramatic episode of the long trial was a demonstration to show the effect of holding a match to drapery material such as was used at the Cocoanut Grove night club.

Joseph Dobesch, drapery manufacturer, was called to the stand, and told of supplying materials for decoration of the Grove, including cotton-backed satin which draped the ceilings of the main dining room and Melody Lounge, and an orange-colored velour which lined the passageway between the main dining room and the new cocktail lounge.

Test Made of Draperies

He also said that in 1940 and 1942 he had sold the Grove some flame-retarding powder, sulphate ammonia, which is dissolved in water and applied to fabrics. The 1942 order was for twelve pounds, which cost fifty cents.

The witness took a sample of the cotton-backed satin cloth, struck a match and held the flame to the piece of cloth. It charred some and gave off a wisp of smoke, but did not burn. Then he tried the same test with a folded piece of velour, which glowed, and showed a small flame which quickly died out.

When Dobesch was turned over to him for cross-examination, Attorney General Bushnell took the piece of cloth, shook it out loosely, and held a match flame to it. There was a glow, a flame, and the cloth burned briskly. Bushnell dropped the burning cloth on the floor and started to stamp out the fire. It gave off a black smoke which spread through the court room and soon had the spectators and jurors, prosecuting attorney, judge, everybody, coughing and choking.

The courtroom was cleared and the windows opened. During the recess, the pungent odor of the fumes reached into the corridors.

When the trial resumed, Dobesch explained that flame-proof means flame-resistant, but that fire-proof means unburnable. The material supplied to the Grove was flame-resistant rather than unburnable.

Misstatements Admitted

On April 7, Barnett Welansky, principal owner of the Cocoanut Grove, was on the witness stand for almost six hours. He followed the changes in ownership of the club from the formation of the first Cocoanut Grove corporation in 1931. He acquired full control of the club when "King" Solomon died in 1933. He assumed full responsibility for the management of the property, stating that Goldfine was only an employee, and that his brother James was merely a volunteer who went to the club of his own accord when he, Barnett, was ill.

In regard to the much-discussed license application, he admitted in answer to questions that he stated his equipment in 1940 to be 100 tables but there were more. In the Fall of 1942 average weekly receipts were $5,000 to $6,000, but he had given $400 daily on his application for a license because he "was thinking about the main dining room." He said decorations in the main dining room were changed twice a year, and new palm trees were put in every two years, and were purchased by him as flame-proof.

The other two defendants, James Welansky, and Jacob Goldfine, did not take the stand. Attorneys for each man contended there was no evidence to show responsibility in the management or operation of the club.

In his closing argument, Herbert F. Callahan, counsel for Barnett Welansky, contended that the Cocoanut Grove was conducted in a proper manner, that Welansky exercised reasonable care in its management, and that if people lost their lives there, because of overcrowding, locked doors, etc., it was no fault of his; if they lost their lives through panic, through material put in as flame-proof that turned out not to be flame-proof, it was no legal fault of Barnett Welansky, who was not responsible for the deaths just because he was owner of the Grove. No one could have reasonably anticipated that what happened on the night of November 28 would happen and should have been guarded against. He said, "I submit that there is no evidence to show that Welansky was wanton and reckless in the manner of operating Cocoanut Grove."

Assistant Attorney Doyle summed up the State's case, employing in his argument time and time again the words "profit," "gold," "cash register." He argued that doors were locked to prevent patrons from leaving without paying their checks, that fire doors were not installed in order that the space might accommodate more tables for paying customers, that in the Melody Lounge there was a false ceiling and "the whole place was false," because "truly did they operate for profit." He suggested that over the door of the new Cocktail Lounge should have been the skull and cross-bones.

Proprietor Held Responsible for Welfare of Patrons

Judge Hurley in his charge to the jury said, "If a person operates a place of business of any description, including a restaurant night club, he impliedly extends an invitation to the general public to come in. . . . When part of the public accepts that invitation the proprietor has a responsibility. He must use reasonable care. That is the duty imposed by law on the New Cocoanut Grove, Inc."

The case was given to the jury, who had been "locked up" for four weeks, on April 10th at 12.59 P.M. In contrast to the crowds that had besieged the courtroom during the month-long trial, only seventeen spectators were in the courtroom at 7.55 P.M. when the jury filed in with their verdicts.

Barnett Welansky, owner, was found "guilty" on nineteen counts of involuntary manslaughter, for which a maximum sentence of 380 years could be imposed.

James Welansky and Jacob Goldfine were acquitted.

Welansky remained in custody for approximately fifteen minutes until he posted a second surety bond of $10,000, making the total amount of his bail $20,000. Judge Hurley announced that sentence would be imposed on Thursday, April 15th.

A last minute effort to stay sentence

(*Continued on page 262*)

Practical Training for Auxiliary Firemen

By FRED SHEPPERD
Editor, FIRE ENGINEERING

IN this installment of the series of articles on "Practical Training for Auxiliary Firemen" are discussed fire hose fittings.

Q. What is a Gilson nozzle?

A. A Gilson nozzle is a short, bent nozzle. It is shown in the illustration herewith. It is usually equipped with a back pressure hook.

GILSON BENT NOZZLE

Q. For what purpose is the Gilson nozzle used?

A. The Gilson nozzle is commonly used on ladders or other supports where the back pressure hook can be placed on a ladder rung, railing, or other support. The reaction of the stream holds the hook firmly on the support, but the nozzle can be changed in direction very easily.

Q. What is a fog nozzle?

A. A fog nozzle is a nozzle designed to deliver a finely divided spray, or fog.

Q. How is the spray or fog produced in a fog nozzle?

A. Several methods of producing the spray or fog are employed in different nozzles. Impinging streams, that is, small streams which strike each other at an angle, have been quite widely employed in fog nozzles to produce the fog or spray. In other nozzles small perforations break up the stream into several small streams which, under high pressure, produce a satisfactory fog; another type of fog nozzle utilizes the circumferential slot, such as found in ordinary garden nozzles, to produce the fog or mist. Still other types of fog producers than the above may be found among fog nozzles.

Q. At what pressures may fog nozzles be operated?

A. Fog nozzles of different designs may be operated at pressures anywhere from 20 to 600 pounds per square inch.

Q. What discharge may be secured from a fog nozzle?

A. The discharge depends upon the size of nozzle as well as the pressure. For different pressures and different sized nozzles, the discharge may range from 15 to 150 gallons per minute.

Q. How is the size of fog nozzle determined?

A. The size of a fog nozzle is the size of the hose to which it is attached. For example, if the nozzle is designed for use on a 1½-inch hose, it is commonly known as a 1½-inch fog nozzle.

Q. How is fire extinguishing effect accomplished by fog?

A. Fog may produce fire extinguishing effect in several different ways, depending upon the material which is burning. For ordinary combustible materials, the fog cools the burning materials, quenches the fire, and in some cases, the steam produced by the vaporization of the fog also serves as an extinguishing agent.

Where oil fires are involved, particularly those in which oil is at rest, the fog acts on the surface of the heated oil to produce an emulsion which serves in the same manner as foam in smothering the fire. In addition, steam from vaporized fog assists in cooling the fire. The fog, through its cooling qualities, lowers the temperature of the burning material as well as the objects in contact with it which might cause reignition of the fire.

Q. What advantage has fog over solid streams in extinguishment of fire?

A. Fog extinguishes fire with less expenditure of water, and therefore reduces water damage. Far less damage is caused to electrical and other machinery by fog than would be caused by a solid stream.

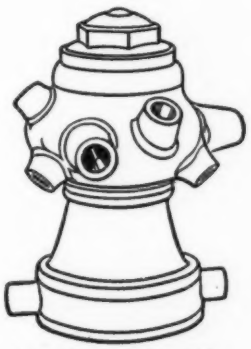
Q. What other advantages has fog over solid stream?

A. Fog is much more effective in cooling the atmosphere than solid streams. It also absorbs fumes from the atmosphere, such as ammonia, and thus makes the work of the fire fighters safer. It is frequently possible for firemen to take a fog stream into a smoky cellar where it would be impossible to advance with a solid stream.

Q. What is a distributor?

A. A distributor is a device which is attached to a line of hose, and which delivers a diffused stream of water at a point where ordinary fire lines could not be used, such as in smoke or fire-charged cellars.

Q. What types of distributors are there?



BRESNAN DISTRIBUTOR

A. There are four types of distributors commonly used in the fire service, namely, the Bresnan, the Kelly, the Bonner, and the Jumbo.

Q. How is the distributor commonly used?

A. For cellar fires, a hole is cut in the flooring and the distributor, attached to a line of hose, is lowered so as to clear the floor beams below and at the same time re-

main at such a height as to give effective coverage of the area surrounding the distributor. The same procedure is followed in operating on a cock-loft fire beneath a roof.

Q. What is the effective range of the Bresnan distributor?

A. When used in basements or cellars, the Bresnan distributor may have an effective radius of range of from 15 to 25 feet.

The Jumbo and Bonner distributors have greater ranges.

Q. What is the discharge in gallons per minute from a Bresnan distributor.

A. The discharge from a Bresnan distributor, which is the most commonly used in fire departments, varies with the pressure. The table below gives the discharge at various pressures.

Table of Discharges of Bresnan Distributor

N.P.	Discharge in G.P.M.
20	192
25	222
30	234
35	253
40	271
45	287
50	303
55	318
60	332
65	345
70	358
75	371
80	383
85	395
90	406
95	417
100	428

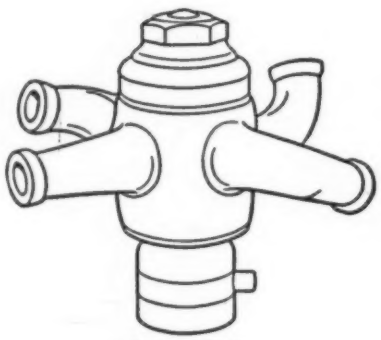
Q. What is the proper procedure to follow in placing a Bresnan distributor in operation?

A. In using the Bresnan, or other distributor, a gate valve is provided in the section of hose to which the nozzle is attached. Usually this section is eight or ten feet long. Care must be taken so that the distributor is at the proper height above the floor below. The method commonly employed in getting the distributor to operate at its proper height is to let the length of hose attached to the distributor down through the opening until the distributor touches the floor of the cellar; then it is withdrawn about five feet. This gives the distributor a height of about five feet above the floor. Some departments paint a band (with indelible ink) around the hose connected to the distributor as a mark to which the distributor should be let down into the cellar in order to give the proper height above the floor.

Q. Describe the Bresnan distributor.

A. The Bresnan distributor consists of a rotating piece having nine orifices, or short nozzles. Three of these are usually ¾-inch in diameter, and six of them, ½-inch diameter. The rotating head is fastened into a nozzle type structure, and it is fitted on one end with a female coupling for attachment to hose. The rotating piece is usually mounted on ball bearings so that it will turn freely. The discharge ports are directed in such a manner as to cause the reaction from the streams to spin the distributor head. This provides complete coverage throughout the range of the distributor.

Q. Describe the Kelly distributor.



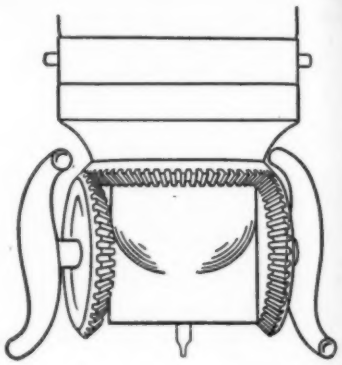
KELLY NOZZLE

A. The Kelly distributor is similar in design to the Bresnan, with the exception that it has but four nozzles. These nozzles are longer than in the Bresnan and are set so that the stream reaction from the nozzles will spin the distributor head. This distributor is also fitted with female coupling for attachment to hose.

Q. Describe the Jumbo distributor.

LARGE DISTRIBUTOR

A. The Jumbo distributor is somewhat the same as the Kelly distributor, but it has six one-inch nozzles, pointed in different directions instead of four. It is used in connection with 3½-inch hose. When pressure is applied, the nozzles revolve the same as with the Kelly distributor, discharging water in all directions. Rotation of the collar carrying the nozzles is produced by two small pipes which direct the streams tangentially to the rotating collar. These pipes are tapped into the chamber and are fed from the same source as the nozzles. With 150 pounds pressure on the distributor, the range of each stream is approximately 40 feet. The large volume of water discharged by this distributor, together with the greater range of stream, make it very effective for fires in large spaces, such as holds of ships.



BONNER DISTRIBUTOR

Q. Describe the Bonner distributor.

A. This distributor, which is also known as the spherical distributor, differs in mechanical construction, although used for the same purpose as the Bresnan distributor. The water revolves a bevel gear on the horizontal plane, which meshes with twin gears (vertical) on the inner side of each of the two "S" shaped nozzles. These nozzles revolve, discharging four ¾-inch streams. The nozzles turn in opposite directions. The range of streams from the Bonner distributor is greater than from the Bresnan.

Q. What is a spreader (fish-tail) nozzle, and what is its purpose?

A. A spreader is a short nozzle, the discharge end of which is formed to give a flat, wide, stream. It is used in extinguishing fires of large area, and also in providing a water curtain to prevent extension of fire by exposure.

Q. What is the chimney spray nozzle?

A. A chimney spray nozzle is a short nozzle used to provide a

spray for extinguishing fires in chimneys. It consists of a short nozzle blanked on one end but provided with three rows of holes drilled through the nozzle perpendicular to the axis of the nozzle.

Fish-Tail Nozzle

The nozzle is attached to a small line of hose and lowered down into a chimney which is afire. As the nozzle is lowered, the spray produced extinguishes the burning soot in the chimney.

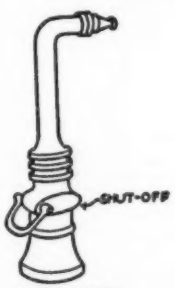
Q. What is a partition nozzle?

A. A partition nozzle is a nozzle used for discharging a stream to control a fire within a partition.

Chimney Spray Nozzle

Q. Why couldn't an ordinary nozzle be used for this purpose?

A. An ordinary nozzle could not be used very effectively, because



NEW YORK BENT NOZZLE

of the difficulty of bending the hose to get the nozzle in a position to direct the stream vertically up in the partition space.

Q. What types of partition nozzles are there?

A. Two types of partition nozzles commonly used are the New York partition nozzle and the spear-head partition nozzle.

Q. What is the New York partition nozzle?

A. The New York partition nozzle is a nozzle consisting of a small diameter pipe bent at ninety degrees near its end. The nozzle is provided with a handle, and a swivel, to enable the operator to manipulate the nozzle when it is placed through a hole in a partition, and is directing a stream up through the partition space.

Q. What is a spear-head nozzle?

A. A spear-head nozzle is a nozzle consisting of a long shank, equipped on the end with a spear-head, with perforations therein, to permit water to pass through the shank and out through the openings after the spear-head has been driven into a partition. Both the New York nozzle and the spear-head nozzle are, of course, attached to lines of hose when in operation.

Spear-Head Nozzle

Q. Is a partition nozzle used for any other purpose than operating on fires within partitions?

A. Yes. The partition nozzle may be used for operating on fires in attics, cock-lofts, and other closed spaces. Both these nozzles are highly effective for controlling small fires burning in concealed places. With the New York nozzle, it is necessary to cut a small opening in a partition big enough to accompany the bent tip. The spear-head nozzle provides its own opening.

In either case, it is possible to get water into a partition to control a fire in very short time.

Q. What is a cellar pipe?

A. A cellar pipe is a bent pipe fitted on the end with a nozzle, the direction of which is controllable by a lever or handle placed on a horizontal piece of pipe.

Q. For what is a cellar pipe used?

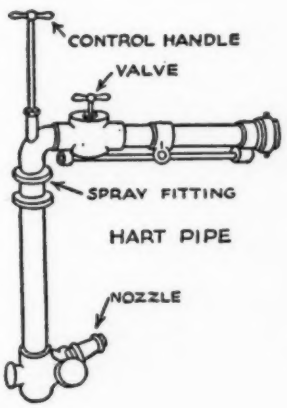
A. A cellar pipe is used for operating on fires in cellars or other inaccessible areas. The cellar pipe is placed through a hole cut in the floor, in the case of cellar fire or cut through the roof in the case of a blind attic fire.

Q. How is the cellar pipe placed in use?

A. In order to get a cellar pipe into service through a floor, it is usually necessary to cut a hole ten inches square or larger. In operating the pipe, the stream should be directed at an angle upward so that the maximum range may be secured. Care must be taken, however, that the stream is not directed at so high an angle as to strike floor beams or other obstructions, which would destroy its effectiveness. Then, too, it should not be directed at too much of an angle downward, for in this case the stream would strike the floor and not reach the top of the burning materials as is desired. Continual movement of the stream is essential if the greatest effect is to be secured from its use.

Q. Describe the Hart cellar pipe.

A. The Hart cellar pipe consists of an L-shaped pipe, fitted at one end with hose coupling, and at the other end, a nozzle. This pipe



when placed in service, is placed with the section containing the hose coupling horizontally, and the section containing the nozzle, vertically. Control of the nozzle is accomplished by a vertical rod equipped with handle. The nozzle may be rotated through 360 degrees and may be raised and lowered by the control handle. The horizontal section is fitted with a valve, to enable the operator to shut off the water if desired.

WAR PRODUCTION BOARD ORDER LIMITS TYPES OF APPARATUS

Order L-43 Designed to Speed Production of Equipment

TO speed up production and to implement program determinations of the WPB Requirements Committee, additional controls are imposed on the manufacture and distribution of motorized fire apparatus by General Limitation Order L-43 as amended April 16 by the War Production Board.

The order, which is a comprehensive revision of the original L-43 issued in February, 1942, covers both new and used apparatus (exclusive of repair and maintenance parts), including pumpers and auxiliary pumping units, hose trucks, tank trucks (including crash trucks), squad, salvage and rescue cars, service ladder and aerial ladder trucks, and equipment and accessories.

Among the chief provisions added by the amended order are the following:

Chassis for 500-gallon pumpers may be manufactured only for the Navy, Lend-Lease, and export orders approved by the Board of Economic Warfare, and 1½-ton chassis for tank trucks may be manufactured only for the Navy and Lend-Lease. Under the determination of the Requirements Committee, Army and civilian needs for these types of chassis must be filled from the reserve stock pool of commercial chassis, which are made available under the provisions of M-100.

The manufacture of pumpers, tank trucks, and aerial ladder trucks is restricted to specified types and sizes, and 500 and 750-gallon pumpers may be manufactured only in accordance with WPB specifications.

Purchase orders for pumpers, tank trucks, and aerial ladder trucks or auxiliary pumping units for civilian use or for export must be authorized by WPB (through approval of application made on Form PD-556). Deliveries to the Army, Navy, or for Lend-Lease purposes are exempt from this authorization.

Restrictions on Rubber

Specific restrictions are placed on the delivery of suction hose, rubber tires, and equipment and accessories for use on fire apparatus.

The use of critical materials—aluminum, copper, copper base alloy, nickel, chromium, cadmium, tin, zinc, alloy steel, carbon steel and synthetic rubber—is restricted to purposes enumerated in Schedule A, attached to the order. In addition, no bells may be installed which contain any metal other than steel.

Manufacturers of motorized fire apparatus are required to file monthly production and shipping schedules (Form PD-774), which are subject to revision and change by the WPB.

The order is effective immediately, but apparatus and equipment in process of manufacture which does not conform to the limitations set forth in the order may be completed to fill purchase orders to which preference ratings had been assigned before April 16.

The complete order follows:

PART 1066—MOTORIZED FIRE APPARATUS

[General Limitation Order L-43, as Amended April 16, 1943]

Section 1066.1 General Limitation Order L-43 is amended to read as follows:

The fulfillment of requirements for the defense of the United States has created a shortage in the supply of the materials entering into the manufacture of motorized fire apparatus for defense, for private account and for export; and the following order is deemed necessary and appropriate in the public interest and to promote the national defense:

§ 1066.1 General Limitation Order L-43—(a) Definitions. For the purposes of this order:

(1) "Motorized fire apparatus" means self-propelled motorized fire apparatus and auxiliary pumping units of fire apparatus, and includes accessories therefor and equipment thereon. The term shall include both new and used apparatus, but shall not include parts or materials for the repair or maintenance of existing apparatus.

(2) "Sedan" means self-propelled motorized fire apparatus of which more than 50% of the area behind the windshield is enclosed.

(3) "Service ladder truck" means self-propelled motorized fire apparatus on which the equipment carried consists of service or ground ladders, miscellaneous equipment, and tools.

(4) "Squad car" means self-propelled motorized fire apparatus designed to carry men.

(5) "Salvage car" means self-propelled motorized fire apparatus designed to carry canvas covers, life nets, and similar equipment.

(6) "Rescue car" means self-propelled motorized fire apparatus designed to carry first aid equipment.

(7) "Hose truck" means self-propelled motorized fire apparatus designed to carry fire hose.

(8) "Pumper" means self-propelled motorized fire apparatus carrying a booster tank, a pump, and hose, which is designed primarily to pump water from sources other than its own booster tank.

(9) "Tank truck" means self-propelled motorized fire apparatus carrying a water tank, a pump, and hose, which is designed primarily to pump water from its own water tank rather than from outside sources. The term shall include, but not by way of limitation, so-called "crash trucks."

(10) "Aerial ladder truck" means self-propelled motorized fire apparatus on the chassis of which are combined (i) an aerial ladder, (ii) a complement of service or ground ladders, (iii) fire hose, (iv) a booster tank, and (v) a pump. An aerial ladder truck may also carry miscellaneous equipment.

(11) "Auxiliary pumping unit" means fire apparatus consisting of a pump mounted on the front, side, or other part of a self-propelled vehicle, or a pump and motor mounted on a trailer, skid or other type of support.

(12) "Copper base alloy" means any alloy in the composition of which the weight of copper equals or exceeds 40 per cent of the weight of all metal in the alloy.

(13) "Specification of the War Production Board" means the specification for 500 and 750 g.p.m. pumpers on file at the offices of the Safety and Technical Equipment Division of the War Production Board, Washington, D. C. (Copies of this specification may be obtained by addressing a communication to the address indicated in paragraph (k) of this order.)

(14) "Manufacturer" means any person engaged in the business of manufacturing, fabricating or assembling motorized fire apparatus.

(15) "Distributor" means any person engaged in the business of purchasing and reselling motorized fire apparatus without further fabrication of such apparatus.

(16) "Person" means any individual, partnership, association, business trust, corporation, governmental corporation or agency or any organized group of persons, whether incorporated or not.

Motor Apparatus

(b) Restrictions on manufacture of motorized fire apparatus. Except as permitted by paragraph (c) of this order, no manufacturer shall take any action to commence, continue or complete the manufacture of:

(1) Any sedan, service ladder truck, squad car, salvage car, rescue car, or hose truck;

(2) Any chassis for use in connection with a pumper carrying a centrifugal pump of 500 g.p.m. capacity, as rated by the National Board of Fire Underwriters, unless such pumper is being manufactured for delivery to or for the account of the Navy of the United States, Lend-Lease, or any person to whom an export license covering the specific equipment has been issued by the Board of Economic Warfare;

(3) Any 1½-ton chassis for use in connection with a tank truck, unless such tank truck is being manufactured for delivery to or for the account of the Navy of the United States or Lend-Lease;

(4) Any pumper except the following types:

(i) Pumpers which carry centrifugal pumps of either 500 or 750 g.p.m. capacities, as rated by the National Board of Fire Underwriters, and which conform to the "Specification of the War Production Board," and

(ii) Pumpers which carry centrifugal pumps of 1250 g.p.m. capacity, as rated by the National Board of Fire Underwriters: *Provided, however,* That the manufacture of such pumpers shall not be commenced until the specifications therefor have been submitted to the War Production Board and have been specifically approved by the War Production Board;

(5) Any tank truck except one having a pump capacity of not more than 400 g.p.m. and carrying a water tank of a capacity of 500 gallons or more. *Provided, however,* That the restrictions set forth in this subparagraph (5) shall not apply to the manufacture of tank trucks for delivery to or for the account of the Army or Navy of the United States or Lend-Lease;

(6) Any aerial ladder truck except one carrying

(i) An extension ladder of 65 feet or 85 feet in length;

(ii) Not more than 500 feet of 2½-inch fire hose;

(iii) A booster tank of not less than 100 gallons nor more than 200 gallon capacity; and

(iv) A pump having a capacity of not more than 100 g.p.m.

(c) **Exceptions.** (1) Notwithstanding the restrictions set forth in paragraph (b) of this order, any motorized fire apparatus in the process of manufacture on April 16, 1943, may be completed to fill purchase orders bearing preference ratings which had ben assigned to the person placing the order prior to April 16, 1943. Deliveries of such apparatus may be made and accepted without further authorization under paragraph (e) (5) (iii) of this order.

(2) The provisions of paragraphs (b) (2) and (b) (3) of this order shall not be construed to prohibit any alteration or further fabrication of chassis which have ben obtained under the provisions of General Conservation Order M-100.

Materials Restricted

(d) Restrictions on use of materials in motorized fire apparatus. Except as specifically authorized by the War Production Board, no manufacturer shall incorporate in the manufacture of any motorized fire apparatus, or of component parts thereof, any aluminum, copper, copper base alloy, nickel, chromium, cadmium, tin, zinc, alloy steel, carbon steel, or synthetic rubber, except to the extent permitted in Appendix A, attached to this order.

(e) Restrictions on sale and delivery of motorized fire apparatus. (1) No manufacturer or distributor shall install a bell containing any metal other than steel on any motorized fire apparatus, and no person shall sell or deliver any such bell which he knows or has reason to believe will be used in connection with motorized fire apparatus;

(2) No manufacturer or distributor shall install any new or used rubber tires on any auxiliary pumping unit, and no person shall sell or deliver any new or used rubber tires which he knows or has reason to believe will be used on an auxiliary pumping unit, except to fill "War Orders" as defined in General Limitation Order M-15-b.

(3) No manufacturer or distributor shall sell, deliver, or otherwise supply:

(i) Any accessories or equipment for use in connection with motorized fire apparatus other than the types and kinds permitted for pumpers by paragraph D-20 of the "Specification of the War Production Board."

(ii) Any intercooler for use in connection with any auxiliary pumping unit.

(iii) Any tachometer or ground shifting mechanism for use in connection with motorized fire apparatus, except tachometers and ground shifting mechanisms which were completed and in the possession of manufacturers or distributors on April 16, 1943.

(4) No person shall sell or deliver any suction hose for use in connection with motorized fire apparatus except to fill purchase orders bearing preference ratings of A-9 or higher;

(5) Subject to the further restrictions contained in paragraph (g) of this order, no person shall sell or deliver any pumper, tank truck, aerial ladder truck, or auxiliary pumping unit, except to or for the account of:

(i) The Army or Navy of the United States:

(ii) Any agency of the United States Government for delivery to or for the account of the government of any country pursuant to the Act of March 11, 1941, entitled, "An Act to Promote the Defense of the United States' (Lend-Lease Act); or

(iii) Any other person who has been authorized by the War Production Board on Form PD-556 to receive the specific motorized fire apparatus and has delivered to his supplier a copy of such form signed in the name of the War Production Board.

(6) No person shall purchase or accept delivery of any material if he knows or has reason to believe that the sale or delivery of such material is prohibited by the terms of subparagraphs (1), (2), (3), (4) or (5) of this paragraph (e).

(f) Authorizations on Form PD-556. (1) Each person seeking authorization under paragraph (e) (5) (iii) of this order to receive any pumper, aerial ladder truck, tank truck, or auxiliary pumping unit shall prepare Form PD-556 in quintuplicate (copies of which form may be obtained at the local offices of the War Production Board) in the manner rescribed therein, subject to the following instructions:

(i) The form should be filed only by the person (transferee) desiring to receive the specified motorized fire apparatus and not by the person (transferor) desiring to make delivery of such apparatus.

(ii) In describing the apparatus for which application is made, give the type, size, manufacturer's name and any other pertinent descriptive material. Do not fill in columns (b) and (c) of table II.

(iii) Do not fill in sections (6), (7) and 8) of table III.

(iv) Under section (5) of table III state in detail the reasons why the apparatus applied for is needed at this time. (The application cannot be processed unless a full statement is made on this subject.)

Authorization May Be Granted

(2) Any authorization by the War Production Board on Form PD-556 may be granted subject to any conditions which the War Production Board deems necessary. Such conditions may include the requirement that a different size or type of apparatus be obtained, or any other condition. The War Production Board may also assign a preference rating on Form PD-556 if such rating is deemed necessary.

(g) Production and shipping schedules and restrictions thereon. On or before April 26, 1943, and on or before the

(*Continued on page 264*)

Blast Causes Four-Alarm Fire in New York City

New York City Firemen are shown pouring streams of water into the burning building at 188 and 190 W. Houston Street after a blast had ripped the walls and roof off one of them. Many girl employees of candy manufacturing plants housed there were forced to take to the fire escapes to reach safety. Eight firemen and four civilians were injured.

Chief Taupier Killed in Crash

The death of Chief Napoleon Taupier of Pawtucket, R. I., removes from the ranks of New England's top flight chiefs one of the most popular and picturesque fire fighters.

The Late Chief Napoleon Taupier

Chief Taupier was returning from an inspection assignment with his driver, Private Roger Smith, when he received an alarm of fire on the car radio. Shortly thereafter something went wrong with the car, and it crashed into a pole, throwing both Smith and the Chief clear of the machine.

Last rites of the Catholic Church were administered by Rev. Daniel Ryan of St. Mary's Church, and the Chief was rushed to Memorial Hospital, where he was found to have suffered internal injuries and possible skull fracture. Witnesses who observed the crash believe the steering gear either broke or went out of control. Driver Smith suffered spinal injuries and possible skull fracture.

The death was a great shock to all New England chiefs and especially to Chief Taupier's many friends in Rhode Island.

For longer than most chiefs care to remember, fire conventions in this country from coast to coast and even some Canadian gatherings have been considered incomplete until the Rhode Island quintet, consisting of Chiefs Thomas Cotter of Providence, Frank Callahan of Central Falls, John Savage of Valley Falls, A. J. Cote of Woonsocket and Chief Taupier, had rendered the rousing French song "Alouette." It had grown to be a sort of official feature of fire chiefs conventions.

A. H. BLACKINGTON

Freight Terminal Burns

Explosion of cartridges in a war consignment, acrid smoke of burning tires and flaming gasoline from fuel tanks hampered Kansas City, Mo., firemen at a blaze which destroyed a motor freight depot, including four big tractors and four trailers, two of which contained war goods.

Fire was discovered under the loading dock inside the one-story brick building of Wheelock Brothers, Inc. Within a few minutes the whole rear of the building was in flames.

Employees were able to save four loaded trailers and an accumulation of bearings held for truck replacements. One hundred large truck tires, also held for replacement, were on fire before they could be reached.

While the fire was at its height there was a series of rapid-fire explosions at the rear of the building. One of the burning trailers held a cargo of cartridges and they were exploding as the heat reached them.

A large quantity of freight ready for loading was in the depot, some of it war orders, and with the exception of the goods in the four trailers which were driven out, none of the shipments was saved.

Chief Taupier's Car After the Crash in Which He Was Killed

Three-Alarm Fire Sweeps Hotel

Over 100 persons, including many night shift war workers and several aged women were rescued from the burning Tudor Hotel, located on Sherbourne Street in the downtown section of Toronto.

The flames were seen issuing from the wall by one of the guests of the hotel. The first alarm was sent by telephone and was received at the fire department switchboard at 10:04 a.m. It was followed by a call from Box 64 on Sherbourne and Isabella Streets.

When the first sections arrived they found dense clouds of smoke pouring from the building. Two lines were taken in the front entrance of the hotel.

Due to the rapid spreading of the fire, a second alarm was sent in from Box 64. This was received at the switchboard at 10:11 a.m. The companies which arrived on the second alarm with Chief George Sinclair brought lines in from Bleecker Street and from both sides of the hotel. Because of the subzero weather it was a difficult fire to fight. The flames seemed to gain headway even with ten streams being played on the structure. To make conditions more difficult a wind developed which fanned the fire to a terrific intensity.

Third Alarm Transmitted

Chief Sinclair ordered a third alarm transmitted which was received at 10:48 a.m. The sections who came on this alarm laid additional lines and used every effort to prevent the fire from spreading to the rear portion of the hotel as well as to the homes on both sides of the structure.

At 11:20 a.m. the north wall of the structure collapsed. Fortunately no one was injured as the men managed to jump clear. At 12:40 p.m. the roof of the front part of the building caved in as did the second and third floors. More streams were brought into play.

The coats and helmets of the men were coated with ice. Many firemen had frozen ears. Several of the hydrants froze, but the emergency squad of the water works department managed to thaw them out.

About 1:30 p.m. the fire was under control, but Chief George Sinclair kept the third alarm sections there until 2:30 p.m. as a precautionary measure.

Thirty-seven lines of 2½-inch hose were used and the water pressure was excellent. Ten pumpers pumped water for over four hours.

Fire Difficult to Fight

The fire was a difficult one to fight because of the nature of the building. It was an old house remodelled. The front portion was three stories in height, with a rear addition of four stories. Both buildings were of solid brick construction built about thirty years ago. The fire originated in the boiler room and might have been caused by forcing the furnace too hard to heat the building in the extremely low temperatures of this winter.

Equipment at the fire included ten pumpers, four hose trucks, two salvage trucks, three aerials, two city service trucks, fire alarm telegraph, gas and oil truck and emergency trucks from the Gas and Light Department and the Transport Commission.

JOHN KARL LEE

Indianapolis Swamped with OCD Equipment

Local officials of the Office of Civilian Defense in Indianapolis, Ind., have been showered with more emergency equipment than they know what to do with.

They asked the OCD in Washington for some steel helmets and got thousands more than they can use. They have distributed the head protectors, each costing $2.50, to all wardens, auxiliary firemen, roof watchers, messengers and even Boy Scouts, and still have more than they need.

City fire officials had suggested that 7,740 helmets would be sufficient for the city. A shipment of 8.340 arrived last August. Some time later came another shipment of 7,740. Then 3,200 more arrived last February 13. Recently 250 more were sent, making a total of 19,530 for a city in which only one test blackout has been held.

Fire Chief Harry Fulmer listed the following additional equipment sent here by Washington OCD headquarters:

Forty-eight thousand feet of fire hose, without nozzles, twice the amount officially deemed necessary.

Sixty auxiliary pumps that are useless because local OCD officials for five months have been unable to get Washington's approval to supply fittings to connect them to Indianapolis fire hydrants.

Two hundred and forty ladders, twice the number needed to accompany the pumps.

Six thousand and nine hundred masks, although no civilian instruction in their use ever had been given here.

Four hundred cots.

Three hundred fire coats.

Much of this equipment never has been unpacked and still is stored in warehouses. Because of the difficulty of finding storage space for the flow of paraphernalia, it has been distributed wherever it could be tucked away. Consequently, the location of specific material is known only to a few and likely would be inaccessible, it was said, in an emergency for which it was intended.

—*From Chicago Tribune, April* 15, 1943.

Priest Dies in Fire

The Rev. Edward H. Rosenburger, pastor of St. Francis of Assisi R. C. church at South Windsor, Conn., was smothered and burned to death some time ago when fire, believed to have started in his bedroom on the second floor, gutted the first and second floor bedrooms.

Father Rosenburger, alone in the parish house at the time, was found on the floor of his bedroom by members of the South Windsor Volunteer Fire Company, summoned when a passerby noticed the blaze and put in the fire call. A company from East Hartford also responded.

Fire officials who investigated the fire said that Father Rosenburger apparently suffocated and then received first, second and third degree burns of the body. State Policeman Timothy Foley stated that the fire may have been caused by a cigarette.

Father Rosenburger was ordained to the priesthood in 1924 and was well known as a writer of religious books and also wrote many articles for popular magazines.

THOMAS F. MAGNER.

FIRE CHIEF LOSES LIFE IN BUILDING COLLAPSE AT ST. LOUIS

Chief Morgan Was Directing Rescue of Men When Burning Walls Crumbled with Him

FIRE swept through the building occupied by the Goodwill Industries of Missouri in St. Louis on the morning of March 20th, causing the death of Fire Chief Joseph W. Morgan, who was killed when the walls collapsed, and injuring nine firemen.

Chief Morgan had been on a second floor level of the fire escape on which he was directing the fight against the flames. He had climbed up the fire escape to the fourth floor, when it became evident that the walls might fall, in an effort to warn his men. He had started

Water Being Poured on the Wreckage of the 80-Year-Old Brick Building After the Collapse

Another Scene of the Ruins of the Goodwill Industries Fire in Which Chief Morgan Was Killed

down and reached the second floor level when the walls collapsed, burying him in the debris. All men got out, except three, who had been on the roof; however, none of the men was injured seriously.

Fire Caused by Match

The fire was believed to have been caused when a match, carelessly thrown in with collections of paper made by the Goodwill Industries, was ignited by the teeth of a shredding machine on the third floor when the paper was run through it.

The fire was discovered shortly after 8:30 a. m. in the plant where, on week days other than Saturday, approximately 100 aged and infirm persons are employed. Only two persons were in the building, however, and they made their way to safety before the flames spread throughout the structure.

The flames fed on a mass of rags, paper, old clothing and inflammable cleaning materials which were stored in the structure. Within fifteen minutes the entire building was enveloped in smoke and flames.

Firemen fought desperately to prevent the spread of flames to another factory building of the Goodwill Industries across an alley from the one which was destroyed. They were successful but were unable to prevent the flames from damaging a two-story brick structure adjoining the factory, occupied by the Rethemeyer Coffee Company. The flames ate quickly through the roof of the Rethemeyer building and a portion of the front wall near the roof crumbled from the pounding of high pressure streams. Nine hours later firemen were still pouring water on the ruins.

So much water was poured on the blaze that Howard street was flooded to a depth of six inches from curb to curb. Charred planks and bits of flooring drifted toward clogged sewers. After the fire had burned out, a temporary bridge of planks was erected to enable pedestrians to cross the street.

About 100 telephones in the vicinity were put out of commission when fire involved a cable in the alley between the two Goodwill buildings. Electric service to some consumers was interrupted when falling debris dragged down power lines.

Five alarms were sounded in quick succession. They brought to the scene all available equipment, including fourteen engine companies, seven hose trucks, nine District Chiefs, and five pieces of miscellaneous equipment, including an aerial tower, squad cars and light trucks. When the front and side walls of the burning structure collapsed, a new call was sent in for every available ambulance.

Damage to the buildings and contents was estimated at $50,000.

Chief Morgan joined the department in June, 1913, and was appointed chief in the summer of 1941. He was fifty-two years old, and was the first St. Louis Fire Chief to have been killed in action.

Anatomy Building Destroyed by Flames

Fire of undetermined origin destroyed the Anatomy Building of the School of Medicine on the campus of the University of Kansas, in Lawrence, on March 3. Fanned by a north wind, flames swept through the one-story frame leaving only charred ruins.

University officials were unable to give an estimate of the damage, pending an inventory of the contents of the fireproof vault in one corner of the building, which contained most of the valuable equipment used by pre-medic students.

In the building also were fifty to seventy cadavers used by medical students.

Firemen and Other Persons in the Vicinity Running for Their Lives as the Walls of the Building Collapsed

John G. Sullivan Dies in Crash

Sergeant Pilot John G. Sullivan, RCAF instructor, son of Arthur G. Sullivan of the Buffalo Fire Appliance Corporation, Buffalo, N. Y., was killed in an airplane crash on April 17 at Davidson, Sask.

Sergeant Pilot John G. Sullivan

The twenty-four-year-old flyer, who received his wings last February, had been at his new post only three weeks when the accident occurred.

Born in Elmira, N. Y., Sergeant Pilot Sullivan was a graduate of the Elmira High School. He served three years in the United States Army, attaining the rank of top sergeant. Before enlisting in the RCAF in November, he worked at the Buffalo plant of the Chevrolet Corporation.

He is survived by his wife, Phyllis; his parents, Mr. and Mrs. Arthur G. Sullivan; a sister, Joyce, and a brother, Arthur, now training at the Army Air Corps School at Biloxi, Miss.

Hoarded Gasoline Causes Fire

A house to house search for hoarded gasoline was made recently in the Carquinez Heights Federal Housing Project near Mare Island Navy Yard, Calif., after a fire gutted one of the dwelling units and revealed hoarded gasoline.

It was the second alleged case of gas hoarding in the project and brought prompt action by James D. Richardson, Vallejo Housing Authority chief.

The fire started in the apartment of Mr. and Mrs. George M. Keith and destroyed every piece of furniture and other articles—except two five-gallon tins of ethyl gas. They were immediately charged with violating a fire regulation prohibiting storage of more than one gallon of gas in a proper container.

There are 1,700 dwelling units in the project, located in a housing shortage area.

BOB GREENOCK.

For Practical Discussion of Current Fire Department and Fire Management Problems

ADVANTAGES AND DISADVANTAGES OF STEEL HELMETS

BECAUSE steel helmets of the type provided by the Office of Civilian Defense to air raid wardens and auxiliary firemen are finding some use in paid departments today, this Round Table discussion has been planned to shed light on their suitability for professional fire service.

Many of the fire chiefs reporting feel that this type of helmet is unsuitable for professional fire use because of its excessive weight, the fact that it is too difficult to keep on the head and that it is a conductor of electricity. This steel helmet does not provide protection for the back of the neck against hot water, embers, etc., as does the regulation helmet.

Some fire departments, on the other hand, have used the steel helmet and find that it serves their purpose in that it is durable.

The consensus of opinion, however, is that this type of helmet serves best as an emergency measure in protecting the men against shrapnel, bomb fragments, anti-aircraft shells, etc., rather than a substitute for the regulation fire helmet for fire fighting purposes.

Readers are invited to send in their comments on this subject or on next month's subject, which appears in the box on the following page. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York, New York.

Discussion of the Topic

Victor H. Veit, Chief, Stamford, Conn.: My opinion of the steel helmet (the type furnished by the OCD) for use by professional firemen is that it is not satisfactory for professional fire department use. It will not stay securely on the head under all conditions which is very essential in fire department work. It is also eleven ounces heavier than the modern low type, cushion lined, regulation helmet which weighs approximately two pounds. Two pounds is enough weight to carry around on one's head at a working fire. While the OCD helmet is made of steel, I feel that if a fireman receives a blow on the head sufficiently hard enough to go through the modern leather helmet, it would also go through steel.

For comfort there is no comparison in the lining of the two helmets. The regulation fireman's helmet has an adjustable, lined cushion that is far more elaborate and superior to the adjustable straps and floating cushion of the OCD helmet. It is obvious that the latter is turned out with economy and speed of production in mind. Even if these features were equal, I would still prefer the regulation fireman's leather helmet.

I feel that the modern low-type cushion lined helmet with the tail flare that protects the neck is most satisfactory for professional fire department use.

J. E. Dellinger, Chief, Macon, Ga.: We are using the steel helmet furnished by the OCD for the auxiliary firemen. I haven't had much experience with it yet, but I believe it will answer that purpose. It was used successfully in the World War No. One, and is strong and will protect the head from falling debris and other things. One advantage is that it is cheaper than the helmet used by professional firemen. I don't believe it would be safe for use where one might come in contact with electrical wiring at a fire. I prefer the regular helmet for professional firemen.

C. A. Crosier, Chief, Battle Creek, Mich.: We have just equipped our department with plastic helmets, and have had no experience with steel helmets. We like the plastic helmet very much.

M. J. Brun, Chief, Fort Smith, Ark.: OCD helmets are too heavy, too difficult to keep on the head and are conductors of heat.

The advantage of this helmet is that it will protect the wearer from falling objects but their weight renders them too unwieldly.

We prefer the new Mine Safety Appliances helmet.

Connie O'Sullivan, Chief, Memphis, Tenn.: The regulation helmet used by this and many other departments throughout the country is made of aluminum or compressed baked leather, reinforced by ribs or cones and will withstand considerable strain, although light in weight. It is shaped so that its brim is longer in the back than in the front. This is to prevent hot water, tar, etc., from falling down the back of the neck. It can be worn in reverse position and the long back used to protect the face from heat and fire. On the inside it has a soft, special felt lining, containing air holes, acting as a cushion, supported by a brass lining around the edges to keep the felt in place and the helmet in shape.

In view of these facts and many other features not mentioned, we feel that our regulation helmets afford a greater measure of protection to the professional fireman than the steel helmet used by the OCD.

H. R. Chase, Chief, Miami, Fla.: Unfortunately we haven't had our steel helments available for service while the Germans were straffing the Miami Fire Department, therefore our opinion is based on a lot of imagination.

We feel that the helmet is not a practical type for firemen, as the balance is such that if you stoop over, which the firemen would have to do, the helmet is easily dropped from the head, even with the chin strap. The type also fails to protect a fireman against hot water, etc., as the regular fireman's helmet would do, and the amount of protection against a bullet does not seem to us to warrant the inconvenience that would go with it. Therefore, we recommend that a steel plate be furnished each fireman to wear on his rear end, as that is possibly the direction we would be going when they start shooting machine guns at us.

Wilson McLaughlin, Chief, Sandusky, Ohio.: The type of helmet furnished by the Office of Civilian Defense is not a good helmet for practical use in professional fire departments. The helmet is too heavy to start with. A man wearing it for a period of time would have an awful load on his head.

HERE IS THE PROBLEM

What is your opinion of the steel helmet (of the type furnished by the OCD) for use by professional firemen?

What, in your estimation, are the advantages and disadvantages of this type of helmet?

Which type of helmet do you feel is most satisfactory for professional fire department use?

As a guard against bullets or shrapnel it would probably be satisfactory. The interior construction is not satisfactory as far as comfort to the men is concerned, nor is it a good deflector for heavy objects as the check band would break with a hard blow and the man would be injured.

I believe for satisfactory work in professional fire department work, the doughboy style of durable bakelite helmet is as good as any on the market. It is repellent to heavy blows and yet is very light in weight. It has good interior construction and fits well. There is also provision against cold weather, earlaps being provided which are easily attached or removed by a zipper.

S. T. Porter, Chief, Washington, D. C.: I would not recommend replacing the regular fire helmet with the OCD helmet. This type of helmet is too heavy for our regular use and is unsuitable as far as design is concerned.

I prefer the conventional aluminum helmet now in use or the plastic Mine Safety fire helmet.

C. W. Ogborn, Chief, Columbus, Ohio: In my opinion, the helmet furnished by the OCD would probably be all right for a volunteer department, but for professional firemen in cities the size of ours where helmets are worn often, it is entirely too heavy and does not fit properly for long wear.

I believe the helmet best suited is the aluminum helmet sold by Cairns. This helmet is light and strong.

Edmund B. Lewis, Chief, Scranton, Pa.: Steel helmets of the type issued by the OCD are strong and protect the wearer from injury from falling bricks or other material during an air raid, but they are too heavy for any work which requires the worker to be in a stooped position and are uncomfortable to wear for any length of time.

The type helmet now used in the Scranton Fire Department is the best, we believe, for professional fire use. It is practically the same type as issued by the OCD except that it is made from a bakelite composition and weighs approximately one pound and two ounces.

Louis J. Mosher, Chief, Elmira, N. Y.: The steel helmet is a conductor of electricity. It affords very little protection from heat or water. I do not believe it should be used for the fire service.

In my opinion, a one-piece shell, four-layer micarta, helmet is the best fitted for the fire service.

A. J. Cote, Chief, Woonsocket, R. I.: We have used a few of the steel helmets in the Fire Department only a short time, but so far the men who have used them seem to like them.

From what I can judge at the present time, I can't see why they would not answer the purpose.

G. A. Goodin, Chief, Muskogee, Okla.: I don't believe the OCD helmets are the right type for professional firemen, for metal helmets get too hot and don't afford enough protection. We use only the Cairns heavy leather "New Yorker" helmets.

E. P. Feaster, Chief, Lincoln, Neb.: I do not favor the use of the helmets furnished by the OCD for professional firemen.

I can see no advantages to be gained. The disadvantages of the steel helmet are that they take critical war materials and would subject the wearer to the dangers of electric shock.

The helmets that I feel are most satisfactory are those made from leather or plastic with cushion lining and no protruding part above the helmet.

Thomas W. Hurley, Chief, Northampton, Mass.: I am not in favor of the steel helmet for use by professional firemen.

I might suggest that its only advantage would be in case of air raids in that it might afford better protection from falling shell fragments.

The type of helmet from experience for fire department use is the aluminum helmet. It affords good protection and is light in weight.

L. Coleman, Chief, West Orange, N. J.: The steel helmet as issued by the OCD for regular firemen is out of the question, in my opinion. In the first place, the helmet is top heavy because the crown is so high, and there is little or no brim. The manner in which the shock harness is assembled in the helmet tends to keep the helmet from setting on a man's head in the manner in which it should.

We have passed ours on to the air wardens for use, and they have the same complaint to make. Every man in the regular department is equipped with a bakelite helmet of the M. S. A. type.

The advantage of the steel helmet over the bakelite is that it will stand more shock and abuse without cracking or breaking.

Our auxiliary firemen are equipped with steel helmets similar to the one used by our soldiers in World War No. 1, with the low crown.

I feel that the bakelite helmet mentioned above is the best for professional firemen.

T. H. Shipman, Chief, New London, Conn.: My opinion of the steel helmet issued by the OCD for fire department use in general is limited to the several occasions on which we have used some of them. In each case the men have stated that our regular fire departments are far superior for our profession.

There are a number of disadvantages that I have noted, such as no protection from water, sparks and debris lodging in the back of the neck; lack of proper balance and the necessity of furnishing an additional garment for ear protection in the winter. With the regular fire department helmet, we can reverse it for face protection from extreme heat.

I am one hundred per cent in favor of the regular fire department leather helmet for professional firemen.

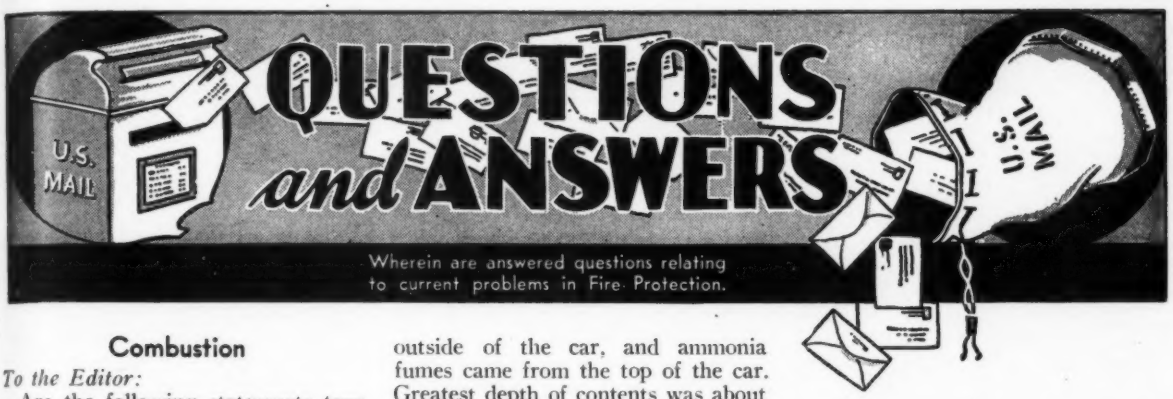
THIS DISCUSSION WILL BE CONTINUED

Due to the large number of Chiefs who contributed their experiences, the discussion on this subject will be continued in the next issue.

CARELESS HILL CEMETERY
I WAS CARELESS WITH GASOLINE
I WAS CARELESS WITH CIGARETTES
I WAS CARELESS WITH ELECTRICITY
I WAS CARELESS WITH TRASH FIRES
WAITING FOR AN ACCIDENT TO HAPPEN

Fire Prevention Exhibit

This is the exhibit of the Springfield, Ohio, Fire Department at the Fire Prevention Show held recently in that city. The waiting grave in the foreground drew particular attention, as it covered not only the danger from fires but from all other accidents as well. Another tombstone which bore the inscription, "I was careless with matches," does not show in the picture. Grover Frock is Chief of the Springfield Fire Department.



Combustion

To the Editor:

Are the following statements true or false? 1. Combustion is a chemical reaction which is always attended with light and heat. 2. A chemical reaction must involve oxygen before it can be called combustion or fire.

J. S.

Answer: The newest edition of Webster's "New International Dictionary" states the following with regard to combustion:

"Combustion: any chemical process accompanied by the evolution of light and heat, commonly the union of the substances with oxygen; hence, slower oxidation, as in animal body."

There are some instances in which combustion is not accompanied by light, as in the slow decay of wood. Therefore the answer is "False." But as commonly known, combustion does produce light and heat, or at least one of the two.

Likewise, combustion as we commonly know it practically always involves oxygen.

With regard to combustion, the "Fire Chief's Handbook" states:

"In the narrowest accepted sense, burning is simply oxidation of a chemical combination of the element oxygen with some other chemical element or compound. Without oxygen there cannot be any burning, and with the exception of certain special compounds, such as gunpowder and nitrocellulose, which contain their own oxygen, the oxygen generally is supplied by the air, which is essentially a free mixture of four parts of nitrogen gas and one part of oxygen gas. In the process of combination, or burning, there will be given out a definite, determinate amount of heat, no matter whether the burning takes a minute or a year."

As generally interpreted, a chemical reaction must involve oxygen before it can be called combustion or fire. We believe the question should be answered "True."

Heating of Aluminum Dross

To the Editor:

How would you handle a case like this?

An open steel gondola car, loaded with about forty-four tons of aluminum dross is en route from aluminum company to a smelting company about eight hundred miles away.

After traveling about 150 miles, the car became so heated that one could hardly place his hand on the outside of the car, and ammonia fumes came from the top of the car. Greatest depth of contents was about five and a half feet in the car.

F. E. O.

Answer: It is very likely that the heating of the aluminum dross in the open gondola car was due to the presence of moisture.

Such a dross, when wetted, heats spontaneously, and there is a great likelihood of it ultimately taking fire due to this cause.

Drenching the mass with water would be only a temporary expedient, for subsequently the heating would start all over again.

About the only way to eliminate the trouble would be to ship the dross covered over so that it would not be exposed to moisture.

As far as controlling the heating is concerned, little can be done except by removing the material from the car and spreading it so that it will dry.

There is always danger of aluminum shavings from a machine shop containing oil, from the cutting, milling and other machines. This aggravates the fire hazard tremendously.

Hazards of Leather Buffings and Dusts

To the Editor:

I would like your answer to the following problem. Involved in this problem is a three and one-half story structure of wood construction which is located in our business section.

The building has no cellar. There is a space of about a foot and a half between the floor timbers and the ground. In the rear of the building is a "well" for a furnace. This space, which is beneath the entire building, is all open. The building houses four stores on the street floor and the upper floors are devoted to rented apartments, all of which are occupied. The stores are a hardware, a shoe repair shop, the Red Cross Headquarters and a vacant store. The leather dust and rubber trimmings from the various machines in the shoe repair shop are all blown beneath the building into the small space between the building and the ground.

In our state we are without the backing of fire laws and we do not have the services of a state fire marshal. However, the town has adopted an ordinance whereby we conduct periodic inspections of the business establishments. We have no authority that amounts to much; we merely make suggestions. We have suggested to the proprietor of this shoe repair shop that he install a separate container in his shop to collect this dust because we think it is a fire hazard. A leather salesman has talked to him and advises that this dust and the way he disposes of it do not constitute a fire hazard. To prove his contention he put some of the dust on a hot stove and also touched a match to it and it did not ignite.

Does the way this dust is disposed of constitute a fire hazard? If so, how could it cause a fire? J. E. N.

The depositing of buffings and dusts from the shoe repair shop beneath the building would provide a serious fire hazard if the buffings and dust were at all oily.

A mixture of this material and oil would be susceptible to spontaneous ignition.

As a matter of fact, a number of fires have been caused in shoe manufacturing plants from this very source.

The deeper the accumulations become, the greater chance there is for spontaneous heating.

On the other hand, if the buffings and dust are dry and so remain, and are not at all oily, danger of fire would be very small.

Formula for Impact

To the Editor:

What is the formula for finding the rate of speed which an object attains when it is dropped from a height, and also the force with which it hits the earth? J. E. R.

Answer: The formula for finding velocity of a body falling a certain height is as follows:

$V = 8.02 \times \sqrt{h}$, where V is the velocity in feet per second, and h, the height from which the object falls.

For example, if an object fell 100 feet, the velocity would be $V = 8.02 \times 10$, or 80.2 feet per second.

Of course, if a body falls a great distance, the air resistance has a material effect upon the ultimate velocity. For example, if an object were dropped from a

plane a couple of miles high, the resistance of the air would ultimately be so great as to bring the falling object to a uniform velocity. This velocity known as the critical velocity, would naturally be different for objects of different mass.

The term "force" or "force of a blow" where one object strikes another is a misnomer, since the energy of a falling body can only be expressed in ft.-lbs. or energy or work. The energy in a body of weight W falling from a height h is $(W/2g) \times v^2$, where v is the velocity acquired in falling from height h. If F is the weight of the body, M is its mass, g is the acceleration due to gravity, S is the height of fall, and v is the velocity at the end of the fall, the energy in the body just before striking is $FS = \frac{1}{2} Mv^2 = Wv^2 \div 2g = Wv^2 \div 64.32$, which is the general equation of energy of a moving body. Just as the energy of the body is a product of a force into a distance, so the work it does when it strikes is not the manifestation of a force, which can be expressed simply in pounds, but it is the overcoming of a resistance through a certain distance, which is expressed as the product of the average resistance into the distance through which it is exerted. If a hammer weighing 100 lbs. falls 10 ft., its energy is 1000 ft.-lb. Before being brought to rest it must do 1000 ft.-lb. of work against one or more resistances. These are of various kinds, such as that due to motion imparted to the body struck, penetration against friction, or against resistance to shearing or other deformation and crushing and heating of both the falling body and the body struck. The distance through which these resisting forces act is generally indeterminate, and therefore the average of the resisting forces, which themselves generally vary with the distance, is also indeterminate.

Discharge at Different Pressures

To the Editor:

In Lesson 5, Question 6 of "Promotional Study Course for Firemen," the question "Why does a pump not give the same discharge at 200 pounds that it gives at 120 pounds?" is asked. The answer is given as "It requires more power to discharge a gallon of water at 200 pounds than at 120 pounds."

Isn't it a fact that 120 pounds pressure through 50 feet of 2½-inch hose and a one-inch tip will discharge about 307 gallons per minute, while 200 pounds pump pressure through the same layout will discharge about 395 gallons per minute? L. M. A.

Answer: When we were speaking of the discharge of a pumper at different pressures, we had in mind the maximum discharge of the pump at a specific pressure.

For example, where a pump is operating at 120 pounds pressure, it will give more water than when operating at 200 pounds pressure. This is because the motor which drives the pump has a certain limit on its power. It can give only this limited power and no more. If water has to be discharged at 200 pounds pressure, and as each gallon of water discharged at this pressure requires more work on the part of the motor than a gallon discharged at 120 pounds pressure, it is evident that the total discharge at the higher figure will be less than at the lower figure.

Our inquiring reporter overhauls the firemanic news of the day

Chiefs Right On the Job!

Two items demonstrating the way our seasoned chiefs go to work when necessary arrive from contribs. Wm. N. Schwartz, Ocean Grove (N. J.) sends story of Chief Ralph Jones of Red Bank (N. J.) who discovered his own car afire, in front of his house. He rushed out of the house with an extinguisher and was getting in some swell licks when his men pulled up. Somebody had sent in the alarm—then, evidently afraid of what they'd done, they ducked.

* * *

The other tidbit concerns an old friend, Chief Ray Tiller, Waterloo (Ia.) who, according to our newsscout's clipping, "caught fire himself." It happened this way: Attending a city council meeting, Chief Tiller gracefully accepted a cigar from Mayor Ralph B. Slippy, just as the council went into session as the committee of the whole. Chucking his pipe in his coat pocket (favorite habit of his, we're told) Chief Tiller touched a match to the cigar and inhaled deeply. Then his face puckered, **"Why,"** sezze, **"this thing smells like old rags burning."** He took another timid puff. Then Building Commissioner S. A. Dudley, seated next to Ray complained that **he smelled rag smoke too, and that was** enough. Chief Tiller rose, to shake himself lest there be a lighted match or burning ember on his clothing.

There was smoke all right! Tiller's pocket was on fire! Un huh—the pipe he'd chucked into the pocket burned a 2-inch hole in the garment. What was it we said about a "committee of the HOLE?"

* * *

One for the Book

From Mason City (Ia.) comes an item, via an unnamed contrib', which kinda worries us. It says that "All utility vehicles, including the fire truck for the town of Denver (Ia.) are out of operation (or were) because gasoline coupons for the municipality, together with the certificate of war necessity and mileage inspection reports for the town's fleet of cars were stolen from the town marshal's car. Appeal has been made to the ODT's district office for a way out of the trouble! It's getting pretty tough to be a fireman and hold your job!

* * *

No Fire — Just a Snow Fight!

Here's still another addition to the false alarm bibliography. In Waltham (Mass.) a group of youngsters were enjoying a snowball fight, when one missle went wide of its target and found its mark in the bull's eye of a fire alarm box on a pedestal. That snowball sounded Waltham's first false alarm of 1943. Firemen who arrived promptly found a bewildered group of children who wailed **"we didn't mean to do it—honest!"** Thanks J.W.C. for this and the many other items.

* * *

More Red Faces!

Some time ago we printed a story of a fire department that really lost a piece of fire apparatus. Here's a companion piece. This, says our amenuensis, happened in East St. Louis (Mo.) where the fire truck is red, and so are the Brethren's faces. All because the truck lost its hose on the way to a fire! Honest to goodness—as the truck careened down the street the two-block long hose shot out and deposited itself like a tail right in the center of the street. Under the fascinated (and perhaps ribald) gaze of passers-by, the Brothers did a record breaking job of re-packing the hose and zoomed off. Now you tell one, O'Brien! . . .

* * *

His Foot in the Door!

George Durham, 19, Washington (D.C.) isn't a go-getter "put-your-foot-in-the-door salesman. But he was treated like some peddlers are treated, nevertheless. Only he got his pedal extremity caught in a revolving door at the District of Columbia Post Office, of all places. Unable to extricate himself, his plight brought crowds of advisors and, finally, Rescue Squad No. 1 of the District F.D. and other Brothers, who hadda dismantle the whole door to free him. He was treated at hospital for lacerations and bruises. Musta been a tough old door!

Paper Box Factory Destroyed by Fire

Fanned by high winds, fire destroyed the Redshaw Paper Box Company at Ansonia, Conn., on April 12, and damaged the plant of the Ansonia Mill-Wright Company. Also in its path the fire ignited several roofs and started scores of grass fires over an area of more than a mile.

The blaze, which threatened the city of Ansonia with a major conflagration, caused damage estimated by Chief Lawrence Tyler at more than $30,000.

Sparks from the blazing paper box factory were carried more than a mile away by the driving wind. Three alarms were sounded as the nearby towns of Derby and Shelton were put on the alert when all available firemen and apparatus in Ansonia were called out.

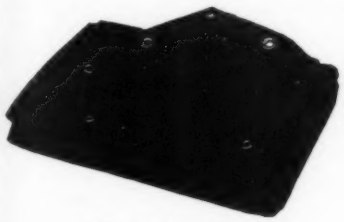
Three firemen were injured fighting the flames at the Redshaw plant. This factory, which had been destroyed by fire in 1920 and again in 1930, may not be rebuilt immediately because of the lack of building materials, officials stated after the fire.

THOMAS F. MAGNER.

Manufacturers' Announcements

Salvage Covers and Fire Blankets

The Industrial Products Company, 2820 N. Fourth Street, Philadelphia, Pa., manufacturers of accident prevention and first aid supplies, has added to its



IFCo Salvage Cover

list of products welding curtains, salvage covers and fire blankets.

The salvage Cover is constructed of a special flameproof and waterproof canvas, or asbestos. Double row stitching is used on all seams, substantial hem on all four sides and the corners reinforced. They are made in any size.

The fire blankets are manufactured to any size desired of Navy grade asbestos cloth. These are used for extinguishing small fires in kettles, vats and similar vessels.

Carter "Chief" Trailer Pump

The "Chief," one of the trailer pumps manufactured by the Ralph B. Carter Company of Hackensack, N. J., is a complete fire engine. It has satisfactorily passed all Underwriters' tests for its class.

Two "Chiefs" provide, at the same pump pressures, approximately the same capacity as one 1,000-gallon pumper.

Each unit is equipped to carry its own hose (600 feet fire hose and two 12½-foot or 15-foot lengths of suction hose), as well as strainers, nozzles, tools and other accessory equipment.

The pump is of the single stage centrifugal type, designed to handle without damage, water containing mud, small stones, or other foreign material. Its one rotating element, the only part subjected to wear, is equipped with renewable bronze shaft sleeve and impeller wearing rings.

The "Chief" engine temperatures are controlled by an efficient heat exchanger method, in effect, a wet radiator using water instead of air. A small amount of cold water from the main pump is circulated through coils in a water jacket, the engine water circulation system passes through this water jacket and around the coils where it is cooled by heat absorption. There is no exchange of water between engine circulation system and pump water cooling coils and no loss of fire pump capacity or pressure. All cooling water is returned to pump and used for fire fighting.

For communities which have a small truck available, the company builds a skidded unit. Any truck of 1 or 1½ tons capacity may be used.

M. S. A. Awarded Maritime "M"

The Mine Safety Appliances Company of Pittsburgh, Pa., has been awarded its Maritime "M" Pennant and Victory Fleet Flag by the United States Maritime Commission, for outstanding production for the war effort.

Presenting the award of the "M" Pennant and Victory Fleet Flag was the Commission's Director of Procurement, Charles E. Walsh, Jr. George H. Deike, President of the company, accepted the award. Merit pins were awarded to all employees, with Charles Ziemke giving the speech of acceptance during the broadcast. Ziemke, a turret lathe operator, is one of the company's oldest employees.

Charts Give Complete Data on Use of Fire Extinguishers

The American-LaFrance-Foamite Corporation, Elmira, N. Y., announces two new fire extinguisher charts showing the operating characteristics of first aid hand fire extinguishers and wheeled engines.

The charts clearly and concisely tabulate the several types of hand fire extinguishers and wheeled engines, and their suitability or otherwise as applying to Class "A," "B" and "C" fires, in accordance with Underwriter's Laboratories classification. For convenience, a Class "D" is added to cover the fire hazards of automobiles, commercial trucks, etc., and a Class "DT" to cover the fire risks pertaining to tank trucks and trailer tractors.

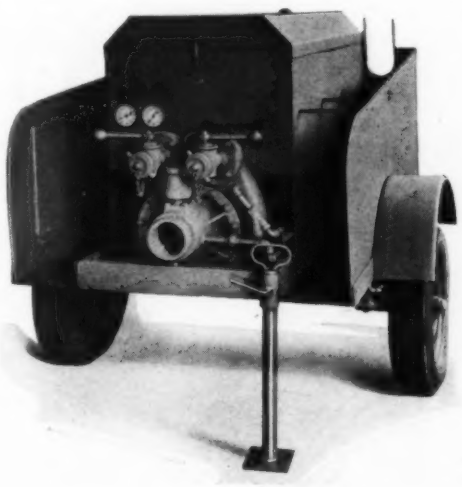
Recommendations are also included for alcohol and kindred fire hazards.

The charts are free upon request to the American-LaFrance-Foamite Corporation.

Brewer With American Rubber

George C. Brewer, well-known in southern Pacific Coast fire department circles, has joined the sales organization of the American Rubber Mfg. Co., of Oakland, Calif.

Mr. Brewer will cover the territory embracing Arizona, southern Utah and southern California from Bakersfield south.



The Carter "Chief"

Lightweight "Stretcher-Kot"

The J. L. Schilling Sales Company of 16 East 40 Street, New York, N. Y., is distributing a new lightweight "Stretcher-Kot" which combines the light weight

Showing the Use of the "Stretcher-Kot"

and adaptability of a regulation ambulance stretcher, with the added comfort and greater daily usability of a sleeping cot. As a bed, the "Stretcher-Kot" occupies less floor space than a full length cot, yet is long enough so that a person can sleep in it comfortably.

The "Stretcher-Kot" is easily maneuverable. It can be carried in one hand. As an additional feature, the continuous rail makes it possible for the unit to be picked up from any position.

The canvas cover is laced to the frame and is easily removable.

An injured person may be placed on a Stretcher-Kot, delivered quickly by ambulance, station wagon or truck to a hospital, then be treated and left on the Kot if conditions require.

Catalog Issued

A catalog illustrating their complete line of industrial head and eye protection equipment has been issued by the Chicago Eye Shield Company, 2300 Warren Boulevard, Chicago, Ill.

In addition to the manufacture of goggles and other safety equipment, the Chicago Eye Shield Company also produces respirators and masks for the protection of the nose, throat and lungs against harmful dusts and fumes.

Oxygen Tank Filler

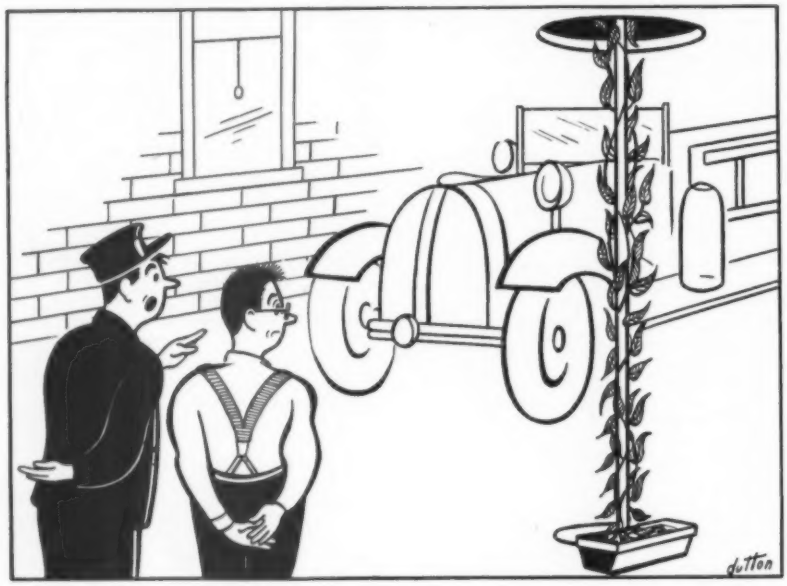
American Resuscitation Equipment Company announce a new unit designed to transfer oxygen from large tanks to standard size tanks used in connection with resuscitators. The unit consists of a yoke with standard fittings and a high pressure gauge. It is Underwriters approved.

Booklet on Use and Care of Fire Extinguishers

A new, educational booklet entitled "Maintenance of First Aid Fire Fighting Equipment" has just been published by American-LaFrance-Foamite Corporation, Elmira, N. Y.

(*Continued on page 276*)

FALSE ALARMS



"The Boys Are Complaining, Dugan . . . I'm Afraid You'll Have to Move These Climbing Beans!"

As Usual

He: "Since I met her I can't eat, I can't sleep, I can't drink."
She: "Why not?"
He: "I'm broke."

"Look at that little midget across the street!"
"Yes. His father was a Scotchman."

Scotch!

Their cars having collided, Jock and Pat were surveying the situation. Jock offered Pat a drink from his bottle. Pat drank and Jock returned the bottle to his pocket.
"Thank ye," said Pat, "but aren't ye going to have a bit of a nip yourself?"
"Aye," replied Jock, "but not until the police have been here."

Mrs. Nuwed: "Darling, will you lend me twenty dollars, and only give me ten of them? Then you'll owe me ten, and I'll owe you ten, and we'll be straight."

Slips

Alice ——— has been engaged as a stewardess and social hostess aboard the S. S. Haven, which sails today. Before leaving port she will have her barnacles scraped.

Careers

The social worker was talking to a girl in a slum district. "Where is your father?" she asked. "Oh, Pap's in the penitentiary," the girl replied. "What about your mother?" "She's out here in an insane asylum," answered the girl. "And your sister?" "She's been in the reform school a couple of years." "Well, that just leaves you and your brother. Where's he?" "He's at Harvard." "What, you mean your brother is in college? What's he studying? "Oh, he ain't studying nothing. They're studying him."

"Dull party, isn't it?
"Yes, very!"
"Let go home."
"I can't, I'm host."

"Mary, have you ever awakened in the morning with a grouch?"
"Gracious, Betty! You know I've never been married.

Effect of War

"Look at that youngster, the one with cropped hair, the cigarette and trousers. It's hard to tell whether it's a boy or girl."
"She's a girl and she's my daughter."
"My dear sir, do forgive me. I would never have been so outspoken if I had known you were her father."
"I'm not her father, I'm her mother."

Wes: "I've been misbehaving lately and my conscience is troubling me."
Harry: "I see, and since I'm a psychiatrist you want something to strengthen your will power?"
Wes: "No, something to weaken my conscience."

Meals

The boy on the U. S. battleship wrote home: "Dear folks, I always know where the next meal is coming from, but where it is going I never know."

"What makes people walk in their sleep?"
"Twin beds."

"What's repartee, Dad?"
"Repartee, my boy, is what a man thinks of on the way home."

"The Volunteer Firemen Are Holding a Dance There Tonight!"

THE NEW YORK TIMES, THURSDAY, JANUARY 7, 1943

FIRE ESCAPE: THE TENSE MOMENT WHEN LIFE AND DEATH HANG IN THE BALANCE

★

When Seconds Count!

★

LIFE NETS *are*

still the fastest means of rescue!

And only safe nets should be used. No Fire Department Rescue Equipment is complete without an ATLAS LIFE NET. Practically every fire in densely populated areas or in industrial plants, calls for quick rescue work. Ladders have always had their place in rescue work but, when "Seconds Count", there is nothing that can take the place of a life net. The average person, stricken with panic and not familiar with ladder work, must be assisted to safety as are the women in the picture. Others driven by excitement, heat or flame, are forced to jump before being rescued. The young lady hanging from the ladder in the upper right corner owes her life to the prompt, efficient handling of a dependable ATLAS LIFE NET.

A life net can be put into position easier and quicker than any other type of rescue equipment. The quick and proper method of rescue, "When Seconds Count" is to use the life net, and it is just as important to use a modern and thoroughly dependable ATLAS.

★ **Write for Literature Describing the ATLAS NETS and ATLAS LIFE BELTS** ★

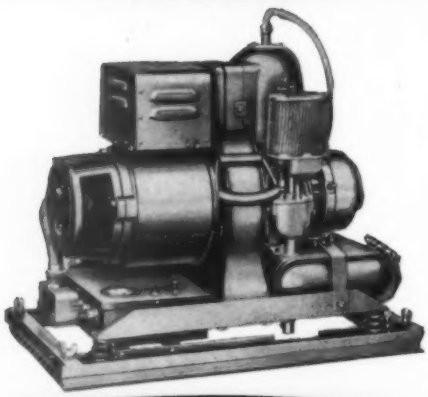
ATLAS SAFETY EQUIPMENT CO., Inc.

FORMERLY: ATLAS FIRE EQUIPMENT CO., INC.

26 WARREN ST. ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ **NEW YORK**

For Getting the Fire Out Faster

HOMELITE



Portable Generators

The old Homelite story now has a new twist. Homelite Portable Generators have had plenty of experience in helping firemen put fires out faster . . . and, for that matter, they're still doing it.

But the job now is to put out the biggest fire of all time . . . *the war.* Therefore, all new Homelite Generators must go to the Armed Forces . . . to help our Air Force, Tank and Signal Corps do their jobs better and faster.

To meet the requirements of our fighting forces, many improvements have been added to Homelite Portable Generators. Our new models are more powerful, more rugged, and more able to operate under all conditions than ever before. And because of this they'll be far more valuable to you who will get them after the war.

The quality of Homelite Portable Generators — now produced in huge quantities — has earned the high Army-Navy production award. After the war, we'll produce as well for you.

HOMELITE CORPORATION

PORT CHESTER, NEW YORK

Cocoanut Grove Trial

(*Continued from page 246*)

by Welansky's counsel, Attorney Callahan, was denied by Judge Hurley who sentenced Welansky to prison for "not less than twelve nor more than fifteen" years on each of the nineteen counts, the sentences to run concurrently. He will be eligible for parole, however, after serving two-thirds of the term.

This case was the first of its kind to be tried in this country. Other holocausts—the Iroquois Theatre fire in Chicago, the Cleveland Hospital disaster, the burning of the S.S. Morro Castle—were not followed by trials such as the Cocoanut Grove proceedings.

Disastrous Fire Hits Elizabethtown

The most disastrous fire to hit the City of Elizabethtown, Kentucky, occurred on April 3, when the factory and office of the Kentucky Pants Company was destroyed by fire causing about $200,000 damage.

The fire was discovered about 2 a. m. by night patrolman Charles Baremore and also by a porter at the L & N depot. Patrolman Baremore sounded an alarm from fire headquarters, while an alarm was telephoned the operator. When the first firemen arrived on the scene, they found the rear of the structure ablaze. The third alarm was sounded immediately after the arrival of the chief, which brought auxiliary firemen. Aid was also summoned from Fort Knox, Ky., which sent one pumper.

The building, a two story structure, was located in the center of the block, flanked on one side by a one story brick building, on another by a one story frame building and to the rear by a group of sheds and a lumber yard.

Due to the efficient leadership of Chief G. O. Shively, fire was confined to the one building, although the top of the walls fell on a restaurant and flower shop causing damage to each.

The fire was helped along by explosions from tanks of cleaning fluid and sewing machine oil. At the height of the fire, flames were leaping 100 feet in the air and could be seen for many miles. Ten streams were played on the blaze for two hours before it could be brought under control. After the pumpers were shut down, three hydrant lines were played on the debris for thirty-six hours before the fire was completely extinguished.

The Kentucky Pants Company operates factories in Glasgow, Ky., as well as the one in Elizabethtown, and was working exclusively on orders from the Army and Navy.

RICHARD BOGARD.

Thirty-fifth Anniversary of Chelsea Fire

Veteran firemen of Chelsea, Mass., who played heroic parts in fighting the famous Chelsea fire observed the 35th anniversary of this conflagration on April 12. The Chelsea fire was the third largest to sweep an American city. The flames, which started with a lighted match tossed in a pile of rags, laid waste 400 acres, left 17,000 homeless and killed 17 persons.

THOMAS F. MAGNER.

It will help if you will mention FIRE ENGINEERING *when writing advertisers*

County-wide System of Fire Cisterns Will Protect Rural Villages

Fire protection for rural communities in Kenosha county, Wis., is assured by a county-wide system of fire cisterns now under construction, the American Municipal Association reported recently. The project was developed as a method of fire control in rural communities handicapped by lack of an adequate water supply.

Three cisterns, each with a capacity of 24,000 gallons of water, have been completed and fifteen more are under construction or planned.

The cisterns, one to a village, are placed in areas where buildings are grouped; with 1,000 to 1,500 feet of hose, it is possible to protect all points of the rural community by pumping directly from the cistern.

Since many rural fire departments have a tank mounted on a truck which follows apparatus to fires remote from a dependable water supply, the cisterns are convenient refill stations when more than a tankful of water is necessary to put out a fire.

Built of reinforced concrete, the cisterns are completely underground, with only the manhole cover visible. Some of the cisterns are built close to wells, from which water is drawn to fill them. Others are fed with rain water drawn from roofs of nearby dwellings; in this case a supply pipe to the cisterns is connected to downspouts on the buildings.

Most of the cisterns will be built on private property, with easements obtained from land owners. The easements are perpetual and made out to the township in which cisterns are located.

Kenosha county sponsored the program as a WPA project. Cost to date, including supply and overflow pipes, has been $3,416 per unit, with federal funds accounting for $2,354 and the county $1,062. Actual cash outlay by the county has been $528 per unit, since about 50 per cent of the sponsor's contribution represents rental charges on construction equipment.

Famous Gold Camp Has Big Fire

Smoldering ruins of 25 homes and small buildings were all that remained after fire at Virginia City, Nev., destroyed part of that historic old mining camp on the Comstock Lode.

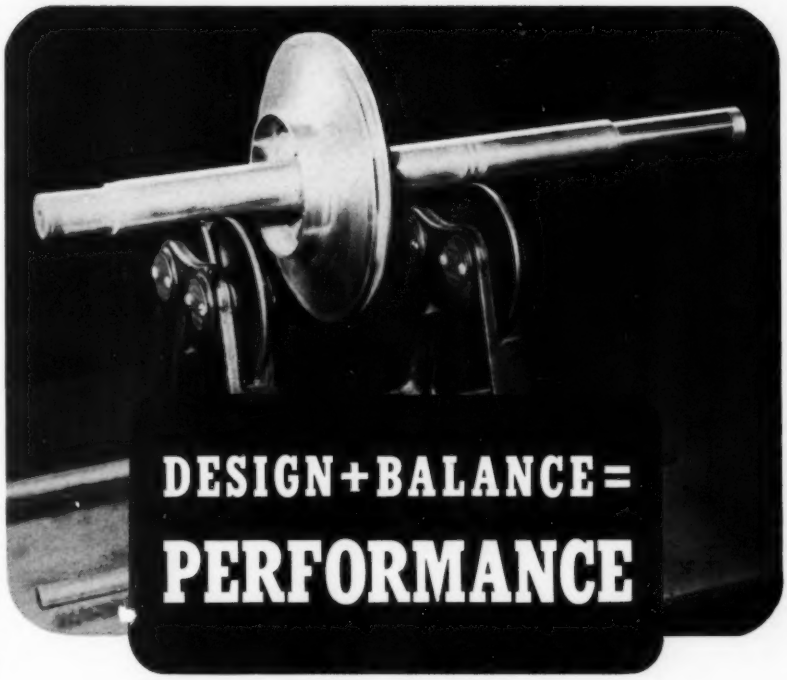
Most of the buildings which burned were old residences built many years ago when Virginia City and nearby Gold Hill were producing huge quantities of silver and gold ore.

They were located in a section known as the "divide" between Virginia City and Gold Hill. An estimate of the damage was not available, but old time residents said it was the worst fire since 1875, when about two-thirds of the town was destroyed by flames.

At that time the town boasted a population of 40,000 persons. Today about 900 persons reside on the fabulous Comstock Lode.

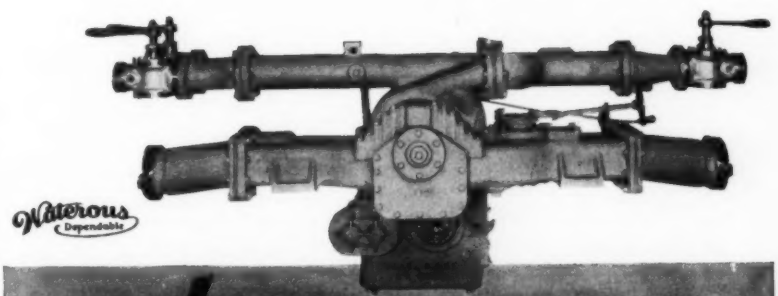
The main business section of the colorful old town was not touched by the flames. The fire apparently started in brush in upper Gold Hill. Fanned by a strong wind, it spread rapidly to the divide section. At one time the blaze threatened to envelop all of Virginia City.

—Bob Greenock.

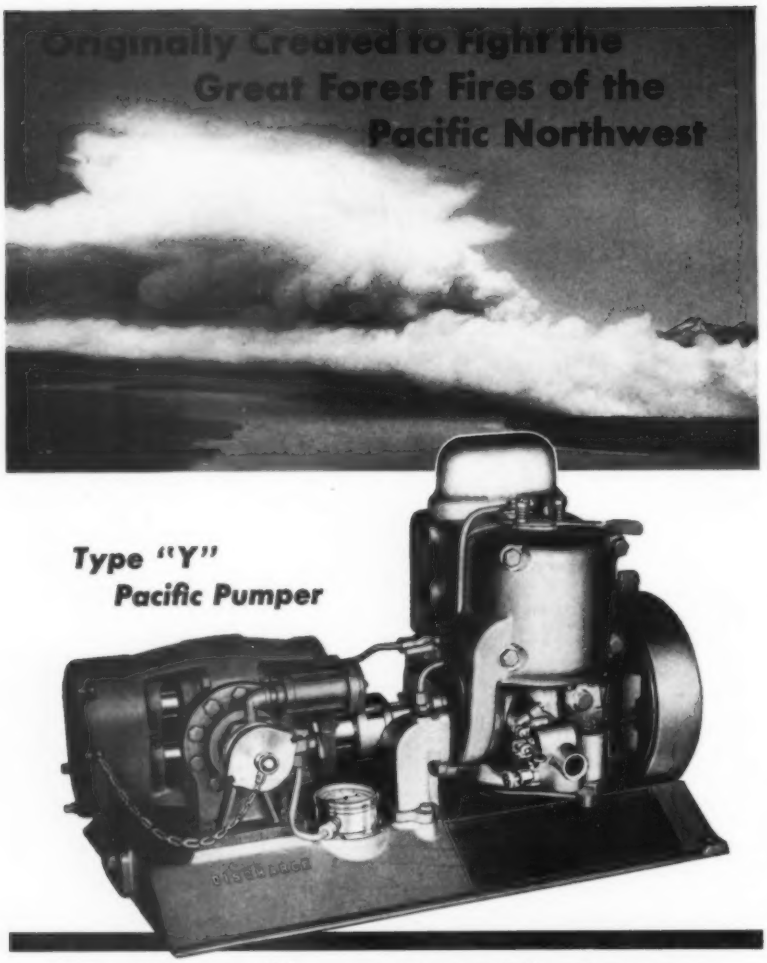


PRECISION BALANCING is but one reason why WATEROUS Centrifugals operate with freedom from vibration throughout their entire range. Large passageways and absence of sharp corners insure easy entrance and exit of the water. Quiet and smooth operation are added reasons for the long life of WATEROUS Centrifugals.

WATEROUS COMPANY • ST. PAUL, MINN.



WATEROUS
CENTRIFUGAL-ROTARY
FIRE PUMPS



Has Everything a Portable Pumper Should Have

—to guarantee dependable service under any and all conditions —built-in stamina, ample power, maximum pumping capacity.

We recommend Type "Y" as the best all-purpose pumping unit for forest fire control; for fire protection in communities, resorts, on estates; for protecting rights of way, bridges, trestles, snowsheds, as well as other types of property.

This unit has been proved by many governmental agencies and field tested by hundreds of other users.

FREE MAIL TODAY **"Fight Fire With Water"—now in its third printing—more than 20,000 distributed.**

PACIFIC MARINE SUPPLY COMPANY, Seattle, Washington.
Please send me a copy of "Fight Fire with Water" and a copy of your Portable Pumper Folder.

(B)

NAME.....

STREET.....

CITY AND STATE.....

Fire Apparatus Limited

(*Continued from page* 251)

15th day of each succeeding calendar month, each manufacturer of motorized fire apparatus shall file with the War Production Board in triplicate on Form PD-774 his proposed production and shipping schedules of motorized fire apparatus for such period as production and shipping may be planned. Upon receipt of such form, the War Production Board will approve or disapprove the proposed production and shipping schedule, or make such changes therein as it shall deem necessary, and will thereupon return to the manufacturer a copy of such form as approved or changed. Notwithstanding any preference rating which any order may bear or any rule or regulation of the War Production Board, each manufacturer shall produce and ship motorized fire apparatus in accordance with his production and shipping schedules as approved or changed by the War Production Board.

(h) Violations. Any person who wilfully violates any provision of this order, or who, in connection with this order, wilfully conceals a material fact or furnishes false information to any department or agency of the United States is guilty of a crime and upon conviction may be punished by fine or imprisonment. In addition, any such person may be prohibited from making or obtaining further deliveries of, or from processing or using, material under priority control and may be deprived of priorities assistance.

(i) Appeals. Any appeal from the provisions of this order shall be made by filing a letter in triplicate, referring to the particular provision appealed from and stating fully the grounds of the appeal.

(j) Applicability of regulations. This order and all transactions affected thereby are subject to all applicable regulations of the War Production Board, as amended from time to time.

(k) Correspondence. Reports to be filed and other communications concerning this order shall be addressed to the War Production Board, Safety and Technical Equipment Division, Washington, D. C., Ref: L-43.

Issued this 16th day of April, 1943.

WAR PRODUCTION BOARD,
By J. JOSEPH WHELAN,
Recording Secretary.

Appendix

In accordance with paragraph (d) of this order, the following materials may be incorporated in the manufacture of motorized fire apparatus, or of component parts thereof, to the extent indicated below, unless any of the uses specified herein shall conflict with the provisions of any other limitation ("L") or conservation ("M") order, in which case the more restrictive order shall control:

(1) Alloy steel containing chromium, in relief valves and seats and highly stressed steel parts, including axles, shafts and gears, to the extent allowed by the National Emergency Steel Specifications; in engine exhaust valves to the extent permitted by Limitation Order L-128; in pump shafts not exceeding 14%.

(2) Alloy steel containing nickel, in piston pins for engines over 125 horsepower and in heavy duty gears, to the extent allowed by the National Emergency Steel Specifications; and in engine exhaust valves to the extent permitted by Limitation Order L-128;

(3) Aluminum, as authorized in accordance with the provisions of Order M-1-i;

(4) Carbon steel, to the extent essential to the efficient functioning of the parts;

(5) Chromium, in alloy steel as permitted under paragraph (1) of this Appendix A; and in plating to the extent essential to the efficient functioning of the parts plated;

(6) Copper or copper base alloy (of the lowest type and grade which is practical for the particular application), in automotive parts to the extent permitted by Limitation Order L-106; and copper base alloy (of the lowest type and grade which is practical for the particular application), in suction tube caps; discharge valve caps; valves (not including the handles); relief valves; impellers, rings and rotors; and in swivels and rollers in suction hose couplings;

(7) Synthetic rubber, in valve packing, pump packing, hydraulic hose lines and fuel pump lines;

(8) Tin, in copper base alloys (where no tin-free alloy can be used); and in solders and babbitts to the extent permitted by Preference Order M-43;

(9) Zinc, in carburetors, fuel pumps, speedometers, and windshield wipers; in plating to the extent essential to the efficient functioning of the parts plated; and for protection of ferrous parts substituted for non-ferrous parts.

New System of Hosing for Firefighting

A new system of hose coupling for firefighting was demonstrated in Edinburgh, Scotland, recently when the National Fire Service made the first public demonstration of a system of steel piping and couplings for use in firefighting. The pipes are six-inch diameter steel piping and the laying of 1,000 feet in forty-nine sections was completed in twenty-nine minutes. The use of steel piping has many obvious advantages in blitz conditions and it is to meet these that it has been evolved. The Edinburgh development also demonstrated the value of steel piping for the use of a vastly heavier head of water, over 1,000 gallons of water being pumped in one minute through the piping. The South Eastern area of the N.F.S. in which Edinburgh is located has added to the value of this new system by devising special tongs which enable the piping to be laid at vastly improved speed and precision, and it was due to the use of these that the exercise, which was the first of its type in Britain, was so successful. A crew of nine men under Section Leader Ewing trained specially in this type of pipe laying made the practice lay, and were congratulated by the Lord Provost, Mr. William Y. Darling. He also forecast that the use of the tongs would become general standardised practice in fire fighting and hose laying.

R. WALKER

March Fire Loss

Fire losses of approximately $39,214,000 in the United States in March were the highest for any month since May, 1932, when they were $39,270,000, according to estimates made by the National Board of Fire Underwriters. The Board's estimates are based upon incurred losses reported by member companies, plus an allowance for unreported and uninsured losses.

The March losses were eighteen per cent more than the February losses of $33,175,000 and twenty-nine per cent more than the losses of $30,505,000 in March, 1942.

Fire losses for the first three months of this year are estimated at $100,122,000, as compared with $96,889,000 for the first quarter of 1942.

You Can Still Get MIDWESTERN PROTECTIVE CLOTHING

Your Job Is Vital!

Your job of saving life and property on the home front is essential—and the War Production Board so considers it. Of course, the needs of men in the armed services come first but most of our catalog items can still be shipped with little or no delay. However we do advise that needed garments be ordered as far ahead as possible.

Midwestern SAFETY COAT

A Life Saver

Men wearing Midwestern striped coats can be seen far more easily—in fog—smoke—dust—mist and in darkness. Fewer men lost in debris after a cave-in. Fewer men knocked off ledges or ladder by hose stream—or run down by traffic. Send for complete description of this fine life saver coat.

MIDWESTERN COMBINATION SUIT

Detachable Lining

Rubberized coat and Bunker Pants with detachable wool linings. Flexible elastic inner sleeves for wrist keeps out water, cold and sparks. Wool lining can be added to any Midwestern fire coat at small additional cost. Snap buttons make it easy to attach and detach quickly.

BUNKER PANTS

Bunker Pants equipped with removable wool lining, sturdy construction, reinforced crotch for pole sliding. These pants together with coat as illustrated at left is Midwestern's combination suit No. 101.

MIDWESTERN MFG. CO., Mackinaw, Illinois

BOOKS

FOR ALL FIRE FIGHTERS

IN

MUNICIPAL FIRE DEPARTMENTS,
INDUSTRIAL FIRE DEPARTMENTS,
and MILITARY FIRE DEPARTMENTS

Providing complete authoritative guidance on all phases of modern fire fighting!

PROMOTIONAL STUDY COURSE FOR FIREMEN

By Fred Shepperd. Published in response to numerous requests from fire department officers and men working for advancement, this new book embraces the famous "Promotional Study Course" which ran serially in FIRE ENGINEERING during the past few years and proved to be so tremendously popular. Covering in chapter lessons most of the important phases of fire protection promotional study — mainly in questions and answers form—all of it is in the concise style generally used and preferred by civil service examiners.

To fire chiefs and other officials responsible for preparing examinations, this book will be found most helpful. And it is a mighty good reason, too, why fire officers and men should find it of inestimable value in studying for advancement.

Price $3.00 Postpaid

FIRE SERVICE HYDRAULICS

A 254 page book, 185 illustrations, flexible Fabrikoid binding, by Fred Shepperd, Editorial Director of FIRE ENGINEERING.

Brings thoroughly up-to-date the subject of hydraulics as it pertains to every phase of fire-fighting—in simpler, more understandable and more complete form than ever. Not only that, it embraces as well, many important new angles that have never before been covered anywhere. There are several brand new formulas, originated by Mr. Shepperd, and even old ones have been simplified or revised for greater accuracy.

"Fire Service Hydraulics" is a book every progressive fire fighter from the Chief down needs and should have.

Price $3.00 Postpaid

QUESTIONS AND ANSWERS FOR LIEUTENANT AND CAPTAIN

A 310 page book, fully illustrated, by Geo. J. Kuss, Former Deputy Chief, New York Fire Department, and Fred Shepperd, Editorial Director of FIRE ENGINEERING. Contains questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers.

Includes chapters on Report Writing, How to Answer Examination Questions, Chemistry Examination Questions, Fire-Fighting Questions, Overhauling, Ventilation, Fire Prevention, Inspection, Evolutions, Drills, Use of Apparatus, Rescue Work, and in fact, all the topics covered by the fire department promotional examinations.

Price $2.50 Postpaid

The FIRE CHIEF'S HANDBOOK

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For progressive fire chiefs interested in up-to-date fire-fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference gudie. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fireman needs and ought to have.

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CASE-SHEPPERD-MANN PUBLISHING CORP.

24 WEST 40th STREET, NEW YORK CITY, N. Y.

WHAT'S BURNING?

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of April, 1943. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending April 30	Losses in Thousands of Dollars
Findlay, Ohio—Findlay Country Club house destroyed	65
Montreal, Que.—C. R. Corneil, Ltd., printing plant damaged	50
Toronto, Ont.—Sacred Heart Convent in village of Eganville destroyed	50
Ottawa, Ont.—Regal bldg. damaged	80
Portage La Prairie, Manitoba—Lake of the Woods Milling Co., mill, elevator and warehouse destroyed	60
Portland, Ore.—U. S. Employment Service offices, records, damaged adj. bldg.	60
Cairo, Ill.—Cairo Meal & Cake Co. mill and large warehouse of the Cairo River & Rails Warehouse Co. destroyed	225
Sidney, Ohio—Maplewood grain elevator and bldgs. destroyed	50
Newport, R. I.—Store of F. W. Woolworth Co. destroyed	125
Thorburn, Nova Scotia—Five bldgs. destroyed, several damaged	80
Toronto, Ont.—Potts Pattern Works damaged	50
Madison, Ind.—The Madison Lumber Co. damaged	80
Scotland Neck, N. C.—Phillips Milling Co. plant and warehouse and warehouse containing 501 bales of cotton destroyed	55
Columbus, Ohio—Warehouse of the Andrus-Scofield Co. containing 20 barrels of spices, 50,000 pounds of coffee, 200,000 pounds of peanuts, 36,000 pounds of peanut butter and 20,000 pounds of sugar destroyed	60
Toronto, Ont.—Warehouse of Richmond Paper Co. and adj. yards of Dartmouth Lumber Co. of Halifax damaged	170
Amsterdam, N. Y.—Four-story bldg. in business district destroyed; six other bldgs. including a church were damaged	170
Buffalo, N. Y.—Plant and yard of Bison Lumber Co. destroyed	60
Minneapolis, Minn.—Warehouse of the Luger Furniture Co. destroyed	85
Goldfield, Nev.—Catholic church and 15 adj. bldgs. destroyed	80
Floyd, Va.—Southern States Co-operative warehouse and store destroyed	50
Galt, Ont.—Warehouse occupied by Stauffer-Dobbie Ltd., Galt Metal Products and Grieve Robinson Co. damaged	80
Dubuque, Ia.—Bldg. housing Marmis and Solomon plants destroyed	60
Waltham, Mass.—Six-acre tract of greenhouses operated by Herbert and E. Allan Pierce at Waverly Oaks damaged	60
Duluth, Minn.—The Flame Night Club destroyed	80
Philadelphia, Pa.—Cricket Club damaged	80
Pittsburgh, Pa.—Block long warehouse of the Seaboard Glass Co. destroyed	80
Chicoutimi, Que.—Stable destroyed	50
Washington, D. C.—Long's Credit Clothing store and the Moskin Clothing store damaged	60
Salem, Ohio—Plant of the Silver Manufacturing Co. and bldgs. of Grate Motor Co. and the Arrow Feed Co. destroyed	170
Arthur, Ill.—Paint dept. of Progress Mfg. Co.	125
Olympia, Wash.—Governor Hotel damaged	80
Bayview, N. C.—Summer cottages, Bayview Hotel, dwelling and store destroyed; two cottages damaged	50
Atlanta, Ga.—Bldg. owned by Lucian Harris, Jr.; a 100,000 pound stock of drugs and chemicals belonging to E. R. Squibb Co.; Equip. belonging to McMillan Co., publishers	60
Kilgore, Tex.—Wickham Co. plant and 400 dressed hogs destroyed	50
Seattle, Wash.—Morely Lumber & Construction Co. plant destroyed and two nearby houses damaged	125
Glasgow, Dela.—Glasgow Hotel, a truck and trailer and an automobile destroyed	50
Sacramento, Cal.—Ice Palace in Yolo County and 28,000 used automobile tires stored in bldg. destroyed	225

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Salesmen and jobbers to sell our Morning Pride Firecoats, with Wing Freedom Sleeves, Chest Protector, Face Protecting Collar, Wool Wristlets, No-Dirt Pockets. Made from Protected Rubber Fabric. Write Morning Pride Mrg. Co., 966 Home Ave., Dayton, Ohio.

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1—7½ h.p. 220-440 volts, 60 cycle, 3 phase FEDERAL Vertical Siren, with remote control relay switch. New—never used. For immediate shipment anywhere. Also new 1½ h.p. 115 volts FEDERAL Sirens. No priority rating needed. Write to Box 20, FIRE ENGINEERING, 24 W. 40th St., New York.

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SEAGRAVE GORHAM 750 GPM PUMPER 1913—in A-1 shape throughout. Passed Board of Fire Underwriters test at 800 GPM in 1941. Gorham two-stage Turbine Pump. 4 cylinder water cooled engine. $500 FOB. Capital Fire Equipment Company, Sacramento, Calif.

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Fire Department Supplies for Sales; Nozzles, fog and shut off, siamese, wrenches, coats, Indian Tanks, Brooms, lights, Fire Extinguishers, charges, hose and many other items used by Volunteer Fire Departments. For immediate delivery. Owner wishes to dispose of stock at once. No sales to dealers. Write to Box No. 10, c/o FIRE ENGINEERING, 24 West 40th st., New York, N. Y.

Carbondale, Ill.—Three bldgs. on a Govt. dam project damaged 50
Decatur, Ill.—Progress Mfg. Co. in nearby Arthur, damaged 170
South Bend, Ind.—Gold Bond Dept. Store damaged 50
Southport, Mass.—Newagen Inn, summer hotel and cottage destroyed 80
Torresdale, Pa.—Bldg. housing South Street rug concern damaged 80
Bristol, Tenn.—Bldg. on West State Street, housing Carter Fabric Co., Alley Construction Co. and Lighthouse filling station destroyed 135
Clarksville, Tenn.—Dwelling of C. H. Moore damaged 50
Seattle, Wash.—Digester plant, Pacific Rendering Co. destroyed 50
Toronto, Ont.—Plant of Victory Cleaners and adj. upholstery shop damaged 50
Chicago, Ill.—Spitzer's Office Furniture House, Inc., and bldg. damaged 50
McMinnville, Tenn.—Elkins bldg., housing five business establishments, destroyed ... 50
Olympia, Wash.—Eight bldgs. comprising Maywood Nursing Home near here destroyed 50
Zellwood, Fla.—Bldg. of Florida Dehydration Co. destroyed 110
Trenton, N. J.—Bldg. housing State food stores, supermarket destroyed 170
Portland, Ore.—Veneer plant of B. P. Johns Furniture Co. destroyed 150
Manchester, Vt.—Mfg. plant destroyed 50
Atlanta, Ga.—Plant of the Atlanta Chemical Co. destroyed 170
Brooksville, Ind.—Storage bldg. of Williams Felt & Paper Co. destroyed 80
Toledo, Ohio—Acme power plant of Toledo Edison Co. damaged 50
Winnipeg, Man.—Farion Flour Mill at Sifton, destroyed 60
Valleyfield, Que.—Warehouse of Canadian Bronze Powder Works, Ltd., destroyed .. 65
Florence, Ala.—Stricklin Lumber Co. yards damaged 60
Kennett Square, Pa.—Eight modern double mushroom houses destroyed 50
Valdosta, Ga.—Annex of the Hotel Daniel Ashley destroyed 50
Newcastle, Ind.—Bldg. housing Sears Roebuck store, beauty parlor and apts. damaged 170
Skowhegan, Me.—Kenmore apts. destroyed 60
Boonville, Mo.—Milling section of the Boonville Mills Co. destroyed 170

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The need for useful tools was never so great. Since you cannot, in many cases, purchase new products — you must conserve what you have. This book tells you how! Shortages of materials and labor mean that we must rely, as never before, on our tools and our own mechanical ingenuity.

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The FD Type Canister and Acme FULL VISION All-Purpose Gas Mask provide protection against Carbon Monoxide, Acid Fumes, Organic Vapors, Toxic Smokes and Fumes.

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If your present masks are not providing complete protection . . . write us and we'll help solve your Gas Mask problems.

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- Rates are low — only $5 per column inch and if three or more consecutive insertions are run — a discount of 10% is allowed.

FIRE ENGINEERING
24 West 40th Street **New York, N. Y.**

Astoria, Ore.—Plant of the Equipment Home Baking Co. and adj. bldg. destroyed 50
Chicago, Ill.—Dwelling of Robert M. Roloson, Jr., in Winnetka, damaged..... 50
Oroville, Cal.—Slaughterhouse of Johnson & Openshaw destroyed 50
Richmond, Ind.—Bldg. of the I. R. C. & D. Warehouse Corp. destroyed..... 50
Port Huron, Mich.—White bldg. office block destroyed; adj. Webb bldg. badly damaged 80
North Little Rock, Ark.—The Jackson Cookie plant damaged..... 50
Atlanta, Mich.—Montgomery County Community Hall, housing county offices and primary and kindergarten schools and adj. Township Consolidated school destroyed.. 80
Radford, Va.—The tipple and part of the runway of the Great Valley Anthracite Coal Corporation at McCoy destroyed.... 125
Midland, Mich.—Frolic Theatre and apts. destroyed 170
Ennis, Tex.—Eleven blocks of dwellings destroyed 50
Wenatchee, Wash.—Morris Hardware Co. destroyed 60

Gasoline—Sudden Death

It might be assumed that as a result of much information circulated regarding the hazard of gasoline vapor railroad men would avoid danger from this source. The carelessness of two men, however, ended in death under most distressing conditions.

At a water station the pumps and oil-burning engine were located in a pit of masonry 20 ft. x 24 ft. x 14 ft. deep, above which was a wooden superstructure. On one side, steps about three feet wide afforded entrance to the pit, and these as well as the plank walk around the pit were oil soaked. To start the Diesel engine usual procedure was to prime it with gasoline, and with a blow torch heat the head of the motor. Evidently the operator had used gasoline from a bottle, placing the bottle on the bottom of the stairs while attending to the engine. When the torch was lighted the vapor was ignited, and the steps and walk were set on fire. The operator and another man evidently could not escape from the pit over the blazing stairs, and more than probably their clothing was ignited by the flash. Outside help was not immediately available, and both men were killed. The bodies were recovered from the debris over four hours after the fire was first noticed. The structure and equipment were a total loss.

Gasoline — vapor — blow torch — two men, apparently intelligent—two deaths —this is the chronicle of the case. How many deaths from this simple cause must occur in any community before the lesson is learned? Gasoline vapor is heavier than air, and sinks to the lowest point available, where it remains until mechanically removed. It will not diffuse with the surrounding air as would ordinary gases, and can be ignited by flame or spark. The unfortunate fact is that men who use gasoline and should appreciate the dangers from the vapor are frequently most careless or indifferent as to the hazard. Those in supervisory capacity should constantly emphasize that extreme care is necessary in handling gasoline, and by surprise checks assure that employes are thoroughly impressed with the necessity for constant care in avoiding sparks or other source of ignition where gasoline vapor may be present.

At a Canadian station where gasoline was being transferred from a tank car to a tank truck, the kind of operation forbidden in the United States, a workman placed a lighted lantern close to

the truck. In the flash fire of the vapors the clothing of the man became ignited, and fire communicated from the truck to an adjacent car of merchandise, to the tank car, and to three tanks of oil. A second car of gasoline was removed safely, and the fire in the clothing of the workman was extinguished. This is another case of pronounced carelessness in use of a lantern near gasoline vapors. Safe types of flashlights are available, but the principal feature of this fire is the transfer of gasoline from a tank car to other than permanent storage as specified in Association of American Railroads Circular 17.

At a garage of fire-resistive construction vapor from gasoline leaking from one of a fleet of tractors used in rail-truck transportation service was ignited by an acetylene torch used in repairing the adjacent tractor. While some of the employes attacked the fire, others summoned the municipal fire department, and removed other automobile equipment from the building. An electric motor of a heating unit at the ceiling above the fire zone was partly damaged, but otherwise the fire was confined to the two tractors by the efficient and prompt action of the employes and the fire department. It should be evident that a torch or any other flame device should not be used inside a structure where gasoline is handled or stored, and that in a case similar to that mentioned the tractors should be moved where no vapors will be ignited when a torch is used. Equipment units should be examined for leaks of gasoline before being placed in a garage, and particularly before any repairs are attempted in which any open flame will be necessary.

NEWS LETTER No. 89, DECEMBER, 1942, OF THE FIRE PROTECTION AND INSURANCE SECTION OF THE ASSOCIATION OF AMERICAN RAILROADS

College Gym Burns

Taylor Hall at Baker University in Baldwin, Kans., was destroyed by fire of undetermined origin recently at an estimated loss of $125,000.

The loss included the school's central heating plant, making necessary the use of improvised gas heating equipment for classes in other college buildings and in fraternity and sorority houses on the campus.

Taylor Hall was constructed in 1907-1908. Its exterior was of native stone and its interior was of wood. In 1908, when the cornerstone was laid, the school was unable to obtain steel girders. The result was heavy wooden beams and girders, which burned readily. The floors, of wood, had been treated with oil and oil derivatives through the years in cleaning and preserving processes. This was believed to have given the flames impetus, once they started.

Fire fighting equipment was sent from Ottawa and Lawrence, but the flames were beyond control.

Service for Drive-in Restaurant

A drive-in restaurant got real service recently when it caught fire. It so happens that the Los Angeles-Pasadena city limits pass through the center of the building. Firemen from both cities answered the call, divided the work and extinguished the blaze quickly.

BOB GREENOCK.

A. V.*

*AFTER VICTORY

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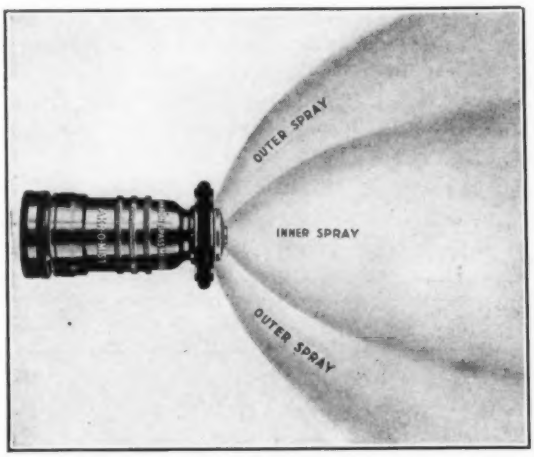

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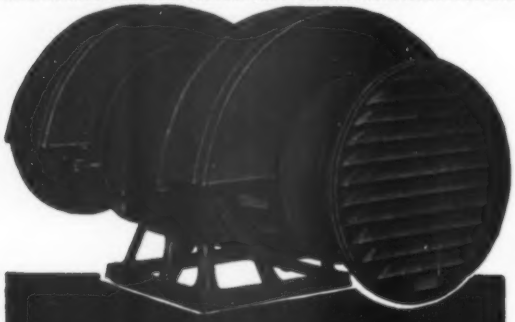

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Hale pumping units, like Hale Fire Pumps, are known for consistent reliable performance.

Pioneered in 1936, used throughout the world, the Hale 500 GPM pumping unit sets new high standards of performance.

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Write today for the Catalog and Folders on the complete line of HALE PUMPS

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

WAR FARE

Alarms and Discussions Clipped and Culled from the War News of the Day, of Interest to the Fire Service.

That Siren Trouble

"Confusion worse confounded "seems to define the situation as regards the Army orders said to have been issued by the First Eastern Command, ordering discontinuance of all sirens that might be mistaken for air raid alarms. In some New York State Counties they never heard of the order and are still blithly using sirens on fire apparatus. In others, the lid is on tight. In some parts of Virginia and Maryland, relaxing orders modifying the original restraining order have been issued—still further gumming up the works. In one Virginia city the chief has ordered his department to go ahead and use all sirens, and less than 15 miles away, a great airport is in trouble because the commanders say they cannot use the large siren needed to call "crash" trucks and fire apparatus to the scene of an emergency.

It looks like another one of those orders given in haste, to be repented at leisure. Meanwhile, the accidents to fire apparatus continue to increase—and every truck injured may be laid up permanently because of inability to get needed parts. In the County of Westchester (N. Y.) alone on Sunday, March 28, the county fire control room received notice of eight pieces of apparatus being put out of order on that day. Each necessitated covering up or "relocating" in some way—with some attendant shifting of fire forces. The situation begins to assume grave proportions!

* * *

Punk Diagnosis!

In Philadelphia, air raid warden James Rush stayed on patrol during a practice blackout and when it was over he reported to his headquarters: **"Nothing went wrong."**

Then Rush returned to his home—to find the entire house had been wrecked By flames!

* * *

Rations Are Rations!

The female of the specie is more deadly—and more stubborn than the male. In Salem (Mass.) women standing in the butter line at a chain store refused absolutely to budge when fire started in the establishment. They remained in line until firemen had extinguished the blaze and then got their quarter-pound of butter each.

* * *

Hot Off the Tape

Unscheduled air-raid alarm in Washington (D. C.) at 8.35 a.m. sent school children and housewives into extra air raid drills and flooded District switchboard with inquiries. There was "blast trouble" 'cording to Herbert Friede, controller of communications of the District. . . . Maximum fine of $200 specified in a new city ordinance in Jersey City (N. J.) will be imposed on persons found guilty of smoking on waterfront properties of the city says Judge Fleming in Criminal Court. . . . In a fire where seven firemen were overcome by smoke, in New York City, four coastguardsmen responded to the alarm. One said the Coastguard had

been ordered to send men to any disturbance within two blocks of the waterfront anywhere in the Third Naval District. . . . German radio said that a 5-hour fire in Bangkok, capitol of Japanese-held Thailand, destroyed a quarter of the city. . . . Auxiliary firemen of Clifton (N. J.) are being housed in six fire houses and roll to fires for training. . . . Papers say that "reinforcements are in sight for Milwaukee's lone fire watcher". . . . More than 100 towns in New Hampshire are organized under the Forest Fire Fighting Service. . . . Fire killed 80 persons and destroyed 800 homes in Bucharest, capital of Rumania. . . . Hydrogen in a 2-story storage tank at Edgewater (N. J.) let go at 9.10 in evening. Two blasts were heard for miles, resulted in flood of telephone inquiries. . . . A soldier who came home to marry his sweetheart died in Cornell (N. Y.) result of a fire, day before his wedding. . . . Santo Caligura, 29-year old fire watcher aboard a vessel berthed in North River (N. Y. C.) was fined $50 for smoking while aboard a berthed vessel. . . . Brig. Gen. Willis R. Taylor, commanding general first fighter command predicts East Coast will be bombed. . . . Real use was made of stirrup pumps to extinguish a fire on the grounds of National Training School for Boys at Bladensburg Rd., Washington (D.C.) by two women air raid wardens who saw fire in hedge and turned in alarm, then went to work on blaze. They got congrats of firemen.

* * *

Gunner Becomes "Fire Chief"

Allied HQ. in North Africa is source of yarn about Gunner Willard E. Hoeft, of an American Flying Fortress who hence forth will be known throughout the service as "fire chief". That is because he put out three fires in succession in the upper turret of a Flying Fortress 20,000 feet above enemy territory. Each time after extinguishing a fire he went back to taking pot shots at attacking enemy fighters.

Hoeft, a staff sergeant from Chippewa Falls, (Wis.), was on recent raid to Palermo and battling two Messerschmitts when a nearby shell burst caused a short circuit in his turret motor and flames broke out. Quickly removing his ammunition supply, he smothered the fire with rags. No sooner had he got his machine gun into action when the turret caught fire a second time. Then a third time. On each occasion he removed the ammunition to safety before going to work on the fire. The Fortress returned safely to its base. Hoeft hadn't even taken a mail order course in fire fighting.

* * *

Another Bomber Story!

Out in Topeka (Kans.) State Senator Willard Brown wants the legislature to protest what he calls poor marksmanship on the part of Army bombers. Once, he complained, a shower of six stray bombs splattered his Pottawatomie County farm henhouse, killing the fowl and sending two hired hands in a hasty hunt for shelter. He'll have no hired hands at all, he says, unless aim improves or shelter is provided!

Looks like we've got "air raids" right with us here and now! Fowl work, we calls it, Senator.

* * *

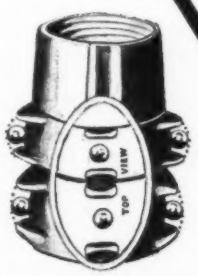
Fire Sabotages War Effort

Fire and explosion continue to get in their dirty work by hindering the war effort, as these random clippings, sent in by contributors, testify:

LEADING TODAY
IN THE INTEREST OF
SPEEDY VICTORY

HOSE BRASS GOODS
WB LINE
THE WOOSTER BRASS Co.
WOOSTER, OHIO

THE WOOSTER BRASS CO.



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TRADE MARK REGISTERED

SKI-LUG COUPLING
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THE NEW SKI-LUG COUPLING

A new companion for our famous Guard-Lug Coupling. Scientifically designed to meet every requirement they give you the best in couplings without premium prices. Ease of operation gives superior results under actual tests.

If you want the best in fire protection equipment specify Wooster Brass Products.

WHEN YOU SPECIFY PRODUCTS CARRYING THE "TRUMPET" TRADE MARK YOU CAN BE SURE YOU HAVE THE LATEST AND BEST IN ENGINEERING DESIGN FROM MEN WITH OVER 30 YEARS OF PRACTICAL EXPERIENCE

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the FACTS.

EDDY VALVE CO., Waterford, N.Y.

FIRST-AID-FAST for FIREFIGHTERS!

M•S•A *Foille* BURN KIT

For quick relief of pain and faster healing—always ready for instant action. Nothing to mix or prepare—simply connect jar of Foille direct to efficient spray gun and apply over burn. Ample supply of Foille in jars is combined with unit-packaged first aid dressings, sterile sheet, etc.
Write for Bulletin FA-73.

M-S-A *All-Weather* FIRST AID KIT

Dust- and moisture-proof protection for on-the-job first aid supplies. Sturdy case contains selected fill of Type D unit packages, each containing one or more complete treatments for specific injuries, without waste. Case is complete with contents and instruction sheet. Bulletin FA-70.

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STREETS, PITTSBURGH, PENNA.

BETTER BADGES
than you ever got before—

For the past 64 years we have supplied the fire fighters of America with the finest badges they have ever worn.

Now — because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver, and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

★

The blue covered catalog is the latest published but write for our new price list. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

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C. G. Braxmar Co., 242 W. 55th St., N. Y.
John O. Velt, Pres.

BRAXMAR BADGES

Standard for over 64 years

BAY HEAD (N. J.): One of main buildings of Morton Johnson Boat Works was destroyed by fire of "undetermined cause" with loss estimated at $100,000.

HADDONFIELD (N. J.): 28 buses, valued at $650,000 burned in destruction of Public Service Garage near here. Fire started in bus parked in center of building.

MEADVILLE (Pa.): Nine training planes were destroyed when fire swept hangar at Port Meadville Airport. Damage estimated at $100,000. Cause—?

RAVENNA (O.): Eleven workers were killed, two injured, when ammunition exploded at the Government's $7,000,000 Portage Ordnance Depot. Cause has not been determined. Blast was felt in Youngstown, 30 miles away.

BOSTON (Mass.): Two-story plant of Air Reduction Sales Co. of Dorchester was destroyed by series of violent explosions and fire. One person injured, loss $1,000,000.

BATTLE CREEK (Mich.): A USO Club and movie house were destroyed by fire of unknown origin, with loss of $60,000.

SAN FRANCISCO (Cal.): A barrage balloon exploded at Vallejo during a storm, killing one and injuring five soldiers and five civilians, and destroying several houses. Explosion came when balloon struck electric wires.

* * *

Atlantic City Auxiliary Firemen Trained

Atlantic City, N. J., Auxiliary Firemen (Fire Reserves) are receiving training and new equipment. Sixteen trailer fire pumps are to be placed throughout the city in and around fire stations. There will also be some 2,200 four-gal. stirrup fire pumps distributed in buildings throughout the city. Their locations will be marked by yellow circles on sidewalks in front of the buildings.

The auxiliary units carry most of the usual equipment of a pumper. Their hose capacity is 400 feet of 2½ inch, and 200 feet of 1½ inch. Weekly drills are held at the department drill yard to acquaint the citizens with the operation of the pumps. Some 500 civilians are enrolled in the Fire Reserves. The units in the Venice Park section of Atlantic City have built their own truck on an old chassis. It carries hose and extinguishers.

The Atlantic City Fire Department consists of seventeen companies, but the manpower has been seriously affected by the draft. The addition of the Fire Reserves and their equipment naturally will bolster the fire defense of the city.

In event of an actual raid, the running card system would be suspended, and companies would respond singly on order of the Department Chief. Boxes will still be transmitted during raids, to give each company a double check on the Fire Department desk at the Air Raid Control Center.

In addition to the ocean, the Atlantic City Fire Department can depend on numerous artesian wells and indoor swimming pools. Even the theaters are arranged to pump their cooling system water to outside fire lines.

Department Instructor Capt. Edward Mulvihill has direct charge of training the Fire Reserves. Firemen Joseph Hackney and Lester Jackson are assigned as instructors to the Civilian Fire Defense. It is their job to keep contact with the Fire Reserves and see that their interest is kept alive.

ON THE BOOK SHELF

INDUSTRIAL FIRE BRIGADES TRAINING MANUAL, published by the National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. Includes 184 pages, fully illustrated; price $1.50 per copy.

This 184-page volume is designed to meet three widespread demands: First, as a training manual for employees assigned to carry out fire fighting duties under direction of the chief of the private brigade; second, as a reference book in those plants where a fire brigade is already organized, but where the experience of a large group of experts can be profitably utilized; and third, in those plants which need the essentials but not the details of large plant fire protection organization.

The book is divided into sixteen chapters as follows: The Industrial Fire Brigade; Forcible Entry Practices; Rope Work; Fire Extinguisher Practices; Fire Streams; Ventilation Practices; Periodic Inspections of Plant Fire Protection Equipment; Care of Fire Brigade Equipment; Fire Causes and Fire Hazards; Fire Fighting Procedure; Flammable Liquid and Gas Fires and Special Extinguishing Systems; Electrical Fires; Gas Masks and Rescue Practices.

The private brigade is probably the most important part of the fire safety organization. What to do when a fire occurs is what each member of the brigade must know before a fire occurs. The department heads must know that employees are organized to know how to prevent fires, how to use fire extinguishers, hand hose and other first aid fire appliances. But it is up to the manager of the plant to arrange for the organization of a plant fire brigade.

Winners in Fire Waste Contest

Winners in the 1942 Inter-Chamber Fire Waste Contest were announced recently at the twentieth annual meeting of the National Fire Waste Council.

The city of Milwaukee was placed as the grand winner for all population classes. The list of winners for the six classes are:

Class 1—Cities of more than 500,000 population—Milwaukee.

Class 2—Cities from 250,000 to 500,000 population—Providence, R. I.

Class 3—Cities from 100,000 to 250,000 population—New Haven, Conn.

Class 4—Cities from 50,000 to 100,000 population—Topeka, Kans.

Class 5—Cities from 20,000 to 50,000 population—Newburgh, N. Y.

Class 6—Cities under 20,000 population—Fort Collins, Colo.

The annual contest is sponsored jointly by the Fire Waste Council and the Chamber of Commerce of the United States, under whose auspices it operates.

Eastern Chiefs to Meet

The annual meeting of the Eastern Association of Fire Chiefs will be held in Baltimore, Md., on June 24, 25, 26, with headquarters at the Lord Baltimore Hotel. Chief Charles E. Clark, Box 271, Wayne, Pa., is Secretary of the Association and Chief Howard Travers of the Baltimore Fire Department, Convention Host.

ELKHART LEADS AGAIN

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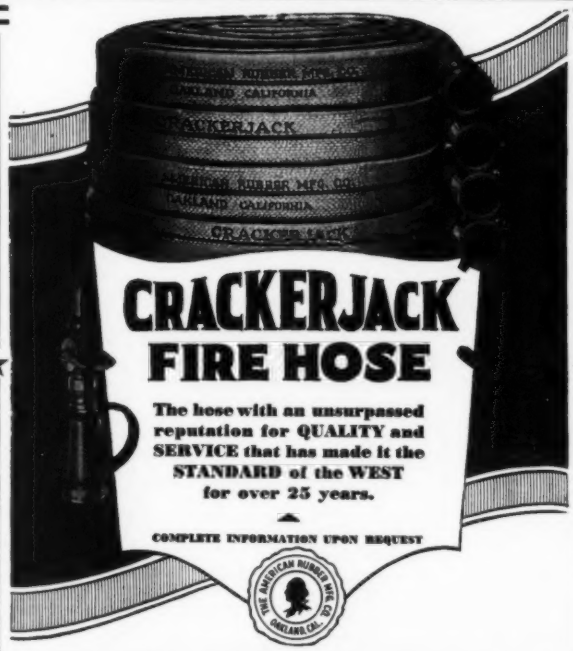
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For more information, just write Section A-531-58, Appliance and Merchandise Dept., General Electric Co., Bridgeport, Conn.

GENERAL ELECTRIC

Forester M. C. Hutchins Honored

Maxwell C. Hutchins, State Forester for Massachusetts for 32 years, was honored by 150 fire chiefs, forest wardens and fellow workers at a testimonial luncheon in Boston on March 17.

Maxwell C. Hutchins

A formal banquet had been planned in Mr. Hutchins' honor, but transportation difficulties made that impractical so the get-together was held in conjunction with the monthly meeting of the Massachusetts Chiefs.

Chiefs from all the New England states who were attending the Directors' meeting of the New England Association the same day joined the Bay State chiefs in wishing Mr. Hutchins good health and a well-earned rest.

Chief Robert Tappan, President of the Chiefs' Club, presented ex-chief George Johnson of Waltham as toastmaster and in typical Yankee fashion "George" told how "Hutch" had come from New York and "started on a shoestring."

Nine years prior to his arrival in Boston, Mr. Hutchins was connected with the New York State Forest, Fish and Game Commission. During that time he had supervision of a portion of the Adirondacks, including Blue Mountain Lake, Schroon Lake, Lake George and the area west to Saranac Lake, Lake Placid and north to the Canadian Line.

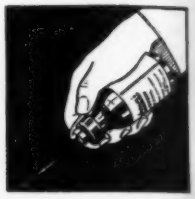
When he arrived in Massachusetts on August 1st, 1911, he saw that his first big job would be to control the hundreds of forest fires that annually swept the woodlands. He set about quietly to study the causes and found that nearly fifty per cent of the fires were caused by railroads.

Finding the cause was one thing; stopping the fires was another. When all other efforts failed, he secured the help of the Attorney General's Office to make necessary changes in railroad equipment so that locomotives would not be scattering sparks and dumping hot coals wherever they went. At that time it was not uncommon for one train to start a dozen fires in a single day.

It was an uphill job to correct a situation that had been taken for granted for many years, but in the end, by good judgment and patience, Mr. Hutchins finally achieved his goal, and today only an occasional fire can be attributed to a faulty locomotive.

He gave early attention to Cape Cod fires in the vast pitch pine areas where

TREAT BURNS WITHOUT DELAY



Promptness is vitally important in the treatment of burns. Gebauer's Tannic Spray in the dispenseal bottle is always ready for instant use. Stable, antiseptic solution forms pliable tannic film over affected area. Minor burns seldom require bandaging or dressing. Convenient. Economical. Literature on request.

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THE New WHEAT Rechargeable Spotlight

MODEL 158

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to Insure Availability

FEATURES

- ★ Positive "non-spill" Construction
- ★ Less expensive Operation than dry cells
- ★ Free use of Hands. Light carries conveniently on Shoulder Strap
- ★ Weighs only 92 ozs. complete
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WRITE FOR COMPLETE DETAILS

KOEHLER MANUFACTURING COMPANY, INC.
MARLBORO, MASSACHUSETTS, U. S. A.

Fyr-Fyter is saving millions of pounds of critical copper and brass for weapons of war in its production of Fyr-Fyter extinguishers for essential war needs. A new Fyr-Fyter 2½ gallon Foam Extinguisher is now built of hot galvanized steel with electrically welded seams. The inner container is also made of steel, porcelain-enameled inside and out. It bears the approval of the Underwriters' Laboratories and carries an AES A-1-B-1 classification.

Another new Fyr-Fyter Pump Tank Type Extinguisher is also built of hot galvanized steel. The pump is made of steel tubing, porcelain-enameled. It is available in 2½ and 4 gallon sizes. Approved by the Underwriters' Laboratories with an AES A-1 classification.

AVAILABLE ONLY ON PREFERENCE RATINGS

Like all extinguishers, these new Fyr-Fyters are available only on orders bearing preference ratings. When Victory is won, we will have an enlarged and improved line of extinguishers available for all civilian needs. Remember Fyr-Fyter. You will have obsolete, worn-out equipment you will want to replace as soon as the war is over.

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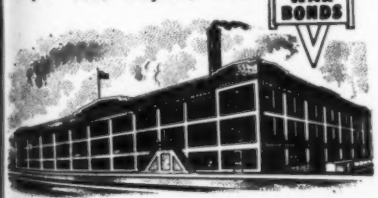
Dept. 101, Dayton, Ohio

BUY WAR BONDS



FYR-FYTER

blazes burned for days. Patrols were organized; men were trained to fight the fires in the most approved manner; observation towers were constructed and when short wave radio came along thirty-three of the fifty-two State owned towers were thus equipped.

The practice of backfiring, used extensively at that time, was discontinued. Much time was devoted to building equipment that would fit the needs of the community where it was to be used and in building up a community spirit between bordering towns.

Mr. Hutchins has long advocated the use of patrols, believing that the discovery of a small fire is more important than the extinguishment of a big one. "If you get 'em when they're little and put 'em out—that's all there is to it."

In commenting on Mr. Hutchins' retirement, Commissioner Raymond J. Kenney said, "The credit—for all the work done in forest fire prevention and extinguishment—goes to the man we are honoring today.

"Day in and day out for over thirty years, he has given his best to this job. The obstacles have been tremendous, but he overcame them. Whatever we may do—in carrying on, must reflect credit to him who came before us—and did the groundwork, the hard way."

District Warden Willard B. Hall of Providence, R. I., gave Mr. Hutchins full credit for the fine spirit of cooperation between Massachusetts and Rhode Island.

William A. Lyons, one of New England's outstanding after-dinner speakers, presented Mr. Hutchins with a gold badge on behalf of his friends in the State Department.

Mr. Joseph Peabody and Supervisor Chas. L. Woodman, of the Conservation Dept., spoke briefly of their Chief's popularity, and veteran John Crowe, who has worked side by side with Mr. Hutchins in making the state department a successful organization, brought greetings from all the forest fire fighters all over the state.

Upon motion of Chief Salamone of Needham, Mr. Hutchins was made an honorary life member in the Massachusetts Chiefs' Club.

A. H. BLACKINGTON.

Twenty-Eight Die in Sanitarium Fire at Seattle

At least twenty-eight persons were burned to death and several more were believed to have perished in a fire which swept through a suburban sanitarium for invalids, on January 31.

It was the Lake Forest Sanitarium, a privately operated institution, about eight miles north of Seattle, Wash. Many of the patients were old-age pensioners. Most of them were bed-ridden or in feeble health. A few were mental patients.

The victims were trapped in their beds and never had a chance to be rescued from the blazing two-story wooden structure, whose only exits were two small doors.

The fire started in an oil burner on which a repairman was working. The flames mounted so fast that any attempt at rescue was impossible.

Those rescuers who were able to reach were unable to help themselves and had to be slid through a window onto boards and tables.

ARM YOURSELF WITH C-D FOG ... NEW WEAPON FROM FAMOUS ARSENAL OF FIRE FIGHTERS!

Fire is an Axis ally. It must be fought, on land and at sea, in factories and on the road.

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C-D Fog is made by the same people who give you Fire Guard, Alaskan, Flo-Foam, and other famous brands. This is your assurance both of dependable manufacture and production in sufficient quantities to meet all needs. Mail coupon today for full details. We will also send you free Fire Protection Kit and large, lavishly illustrated catalog.

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FORTIFY
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Manufacturers' Announcements

(*Continued from page 259*)

The booklet is divided into six sections: (1) Vaporizing Liquid, (2) Soda Acid, (3) Foam, (4) Anti-Freeze, (5) Carbon-Dioxide Extinguishers and (6) up-to-date charts giving complete data in condensed form as to extinguisher and engine characteristics, methods of operation, capacity, range of stream, etc. This booklet is free upon request.

Walter Kidde Officers Named

Clayton E. Freeman was elected Chairman of the Board, and John F. Kidde was elected president of Walter Kidde & Company to succeed his father, the late

Clayton E. Freeman

Walter Kidde, it was announced recently. The company, which has offices in New York and plants in Bloomfield, Belleville and Newark, N. J., produces carbon dioxide fire-extinguishing and life-saving devices for army, navy, and industrial uses.

John F. Kidde

Mr. Freeman has been associated with the company as director since 1936 and has served on the Finance Committee since 1937. He is a director and retired president of W. T. Grant Company, with whom he was associated from 1909 until 1930. He is also a director of L. Bamberger & Company and Glen Ridge Trust Company.

Mr. Kidde graduated from Princeton in 1926 and from Stevens Institute of Technology in 1928. After three years with Cities Service Company and J. R. Williston & Company, he joined Walter Kidde & Company as director and advertising manager. In 1937 he was elected treasurer, which position he holds concurrently. Mr. Kidde is also a director and treasurer of Walter Kidde Constructors.

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All the best features 100 years of "know how" have produced, are built into these sturdy helmets — including the CAIRNS Self-Adjusting Cushion Lining that grips the head and absorbs shocks. Rugged top grain leather is the material used, processed for strength and heat resistance, and strongly reinforced to hold the shape. Made in 2 weights, 12 sizes, and 3 ovals. "Keep Your Head With a Cairns."

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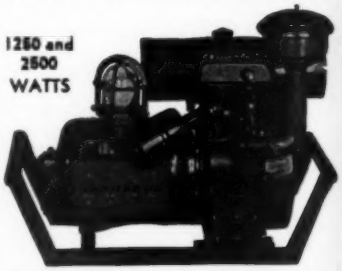

This 1250 watt, portable unit has been designed expressly for fire department use. It is small, light, compact and equipped with carriers for easy portability out on the job. Air-cooled 4-cycle engine 2⅝" bore x 2⅝" stroke. 2.4 H.P. 2 gallon fuel tank. Quick starting. Also 2500 watt size.

LARGER SIZES AVAILABLE

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Fire Extinguisher Demonstrated

On Wednesday morning, April 25, a demonstration of the "All-Out" Fire Extinguisher was given for a group of interested spectators at the Pan American Airlines on LaGuardia Field, New York.

The "All-Out" extinguisher, a new product in the fire equipment field, uses as an extinguishing agent fifteen pounds of a dry chemical which is expelled by pressure generated by a 10-ounce cylinder of carbon dioxide gas.

The demonstration consisted of hazards of spilled gasoline, running gasoline, calcium carbide, and a 10-foot square pit of crankcase oil spilled with gasoline and allowed to burn until the oil was boiling, was extinguished in seven seconds.

Among the spectators who witnessed the demonstration were the following: David O'Brien, Edo Aircraft Corporation; Mr. Ladd, United Parcel Service; William Sievert, Engineer, U. S. Aviation Underwriters; Major John Weiss, Roosevelt Field; Paul Plender, Inter-American Airways; Captain Edgar, Technical Adviser, Inter-American Airways; Vincent Burnelli; Lee Warrender, Casey Jones School of Aeronautics; William Ziegler, Aetna Insurance Company; David Schechter and James Hayden of Associated Transport, Inc.; Mr. Langford, W. C. Eldridge, G. F. Tyler, Burno English, Mr. Brown and Mr. R. Jacobson of Pan American Airways; R. Kastell, United States Rubber; E. H. Ellingher, Socony Vacuum; L. F. Bonman and M. DeGrauf, Royal Netherlands Airline; Mr. Copeland, Ebasco Service; Mr. McGrath, Sperry Gyroscope; J. J. McCarron, Consolidated Telegraph; William Gibson, FIRE ENGINEERING; Mr. Wager, New York Central Railroad; William P. McConnell, Coordinator of Training for American Export Airlines and Chief John J. Fall, Marine Division, Bendix Corporation, Brooklyn, N. Y.

Convention Dates

May 17-19—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. Annual meeting. Jamestown, N. Y. Secretary, Chief Henry F. Drake. Clinton Corners, N. Y.

MAY 20-22—DOMINION FIRE PREVENTION ASSN. AND ASSN. OF CANADIAN FIRE MARSHALS. Annual meeting. Seigniory Club, Quebec. Secretary, W. L. Clairmont, Dominion Fire Commissioner, Ottawa, Ont.

May 25-27—NORTH CAROLINA FIRE COLLEGE AND DRILL SCHOOL. Annual meeting. Charlotte, N. C. Director, Sherwood Brockwell, State Fire Marshal, Raleigh, N. C.

June 8-11—ILLINOIS FIRE COLLEGE. 19th annual meeting. University of Illinois, Champaign-Urbana, Ill. Secretary, Chief Roy W. Alsip, Champaign, Ill. Director, Professor L. H. Provine, Urbana, Ill.

June 22-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting. Rutland, Vt. Secretary, Chief John W. O'Hearn. Watertown, Mass.

June 24-26—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting. Baltimore, Md. Secretary, Chief Charles E. Clark, Box 271, Wayne, Pa.

July 26-28—WISCONSIN ASSOCIATION OF FIRE CHIEFS. Defense conference. Milwaukee, Wis. Secretary, Chief Arthur Rahn Two Rivers, Wis.

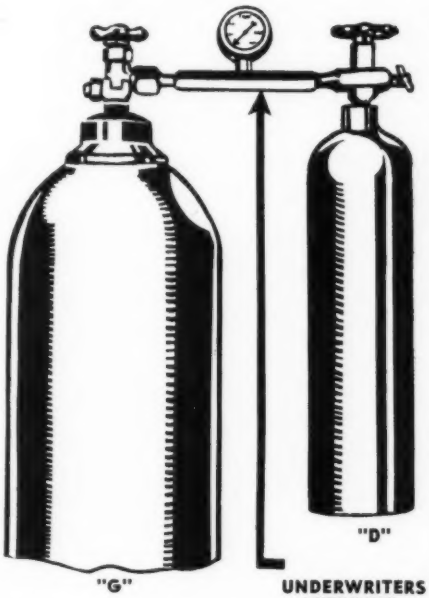
Aug. 16-21 — PENNSYLVANIA FIREMEN'S TRAINING CONFERENCE. Fifth annual meeting. Lewiston, Penn. Secretary, Chief Charles E. Clark, Box 271, Wayne, Penn.

Aug. 24-27—KENTUCKY FIRE SCHOOL. Annual meeting. Owensboro, Ky.

Aug. 31-Sept. 3—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting. Chicago, Ill. Secretary, Chief Daniel B. Tierney, Arlington, Mass.

Sept. 6-10 — WESTERN PENNSYLVANIA FIREMEN'S TRAINING INSTITUTE. Annual meeting. Pennsylvania State Teachers College, California, Pa. Secretary, Chief Henry Neill, Box 83, Vestaburg, Pa.

Here is a simple mathematical problem you can work to advantage



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YET—one tank "G" will refill tank "D" about 8 times.

This enormous saving is possible for any fire department using an appreciable number of oxygen refills—***all you need is the refilling mechanism between tanks (see arrow).***

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Please send one refilling mechanism ($27.50 prepaid). ☐
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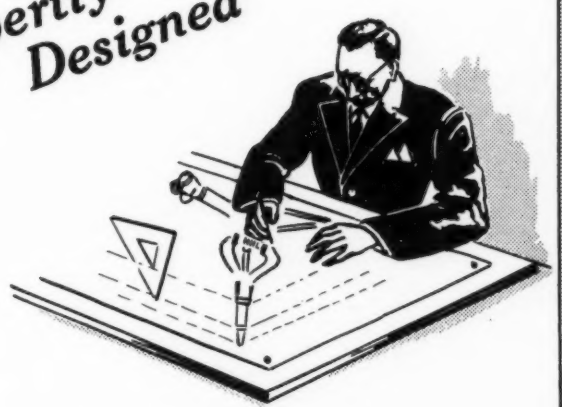

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STREAMS

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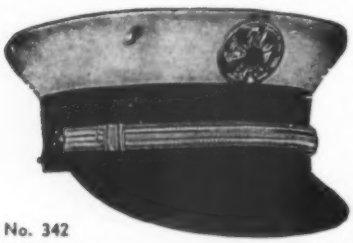
UNION MADE PROMPT DELIVERY



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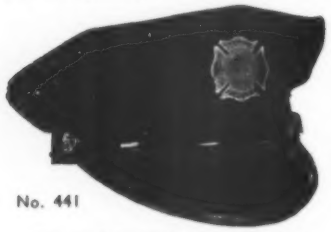

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A MODERN and PROVEN
LIFE NET

The SUPERIOR LIFE SAVING NET is stronger than any other, because of the tested breaking strength of 1,800 lbs. of each individual rope.

The direct pull shock absorber system eliminates all friction and its greater resiliency provides for a safer, easier landing.

Made of Chrome Molybdenum steel, the frame may easily be folded for storage within a few seconds.

For the utmost in LIFE SAVING VALUE . . . "SPECIFY SUPERIOR".

For ECONOMY, have your old net converted into a "SUPERIOR".

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SUPERIOR FIRE EQUIPMENT CORP.
235 E. 42nd St. New York, N. Y.

Correspondence

Sirens on Fire Apparatus

To the Editor:

We note the article in the recent issue of the International Association of Fire Chiefs News Letter in regard to the use of fire apparatus sirens.

A few weeks ago we had a conference of the New England States Fire Co-ordinators and others with representatives of the Security Division of the First Service Command, of which a Colonel Stark is the mentor and spokesman. We laid before him all of the arguments which were ennunciated in the News Letter, and while we didn't get it in writing, he stated it was his impression that use of fire apparatus sirens would not conflict with Paragraph 45 of General Drum's order. I thought possibly the fire service might be interested to know that we feel here that for the present at least this question is settled.

A similar question was discussed in regard to street or traffic sirens and again it seemed to be the concensus that persons had become so accustomed to their use that they would not be confused with an air raid alarm.

Very truly yours,
P. C. CHARNOCK, Assistant Manager New England Fire Insurance Rating Association.

Boys to Bolster Volunteer Rolls

Manpower shortage has been a paramount problem in industry for the past several months, but this important question has been a headache to the many volunteer fire companies in the area around Philadelphia for the past three years.

These volunteer organizations have been suffering losses up until the time that this country entered the war, from active members being engaged in defense work, which caused them to break away from these leisure-time activities and devote more time to their work. Since the declaration of war, the armed forces have taken a large number of the active members from the fire-fighting crews of all communities.

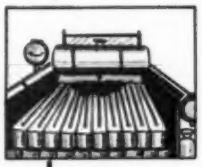
In Montgomery County, Pa., just north of Philadelphia, which has eighty volunteer fire-fighting organizations, the honor roll of members in the services of the Nation now contains more than 1,700 names. This number, added to the large number of active men who are away from home working in war industries, aggravates the need for more volunteer firemen.

One group, the Fourth Fire District of Montgomery County, which includes Springfield, Whitemarsh, Plymouth, Upper Dublin, and Lower Gwynedd Townships and the Borough of Ambler, have invaded the ranks of the younger boys between the ages of sixteen and eighteen years of age as a means of bolstering the rapidly depleting membership lists.

The idea of using youths of this age for fire-fighters was advanced by the Wissahickon Fire Company of Ambler, late last year when efforts for auxiliary firemen under civilian defense failed. Requests for auxiliary firemen in the borough resulted in a large number of

CONSERVATION FACTS
on how to save your hose

Fact No. 7
GASOLINE INJURY TO HOSE



Never store or pack hose where it can come in contact with gasoline. If your gasoline tank is situated over your hose body — check it constantly for leaks and exercise extreme care when filling tank to allow no gasoline to fall on hose.

Gasoline dissolves the cement that holds the rubber lining to the outer jacket and also attacks the rubber lining itself, dissolving it and softening it up so that it will leave the jacket and cause rapid deterioration. If gas or oil does get on hose, scrub thoroughly with soap and water.

More than 27 million people in hundreds of towns and cities throughout America are protected by Goodall Fire Hose. Miles of Goodall Hose helped England fight the Nazi air blitz. Hundreds of miles of Goodall Hose are now being made for our Civilian Defense.

We are looking for some live-wire distributors in certain territories. Write to our main office, giving a full description of your set-up.

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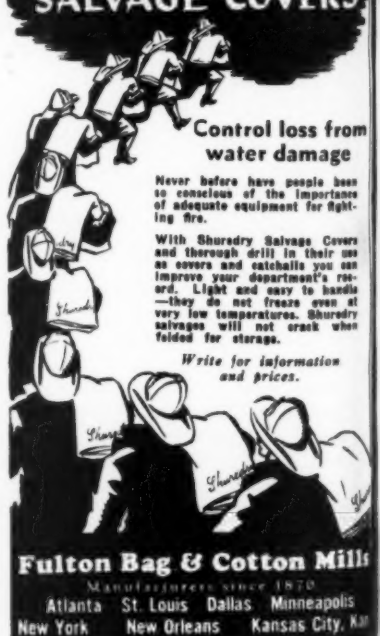
GOODALL
RUBBER COMPANY
6 SOUTH 36TH STREET, PHILADELPHIA
Branch Stocks in Key Cities Across the Country

USE Shuredry SALVAGE COVERS



Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle—they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

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INVINCIBLE NOZZLES
PREPARE — PROTECT
Portable equipment is the watchword of today.
Buy—
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and enjoy the benefits derived by experience of the pioneers in the nozzle field.

Fig. 403

F. H. McINTIRE BRASS WORKS
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BOSTON, MASS.
1837 -- 1941

For CIVILIAN DEFENSE

M H

VALVES
HYDRANTS

Experience indicates that more damage is done in an enemy air raid by incendiary bombs than by demolition bombs. City officials and water works operators are striving for maximum fire protection by increased installation of high quality and dependable fire-hydrants and valves, such as M & H.

M&H VALVE
AND FITTINGS COMPANY
ANNISTON, ALABAMA

young boys answering the call, who were were given the regular training under the civilian defense set-up. As the need for active firemen increased, it was found that on many alarms of fire, the youths were always on hand and willing to serve. Later several inquired if it was possible for them to join the active fire company.

Chief Clarence Yost and other members brought the matter before a company meeting. As all active members of most fire companies are covered by insurance for injuries while combating a fire, the question of whether or not these youths would be covered entered the argument. The question was taken up with the insurance company, which stated that in most cases, youths of this age would be compensated under the blanket policies held by the organization, provided the written consent of the parents is obtained.

Since the announcement of the plan several months ago, seven companies of the Fourth District are now accepting youths between the ages of sixteen and eighteen for active membership in their companies and are achieving considerable success. The other three companies in the district have inaugurated the "back to youth' movement.

The Fort Washington Fire Company have approximately two-thirds of their active membership in the armed forces and this plan has been a necessity for them. Officials of the company have even advanced the idea to the local school board, that on the alarm of fire, the members of the company may be permitted to leave the class room to answer the call. Of course, this idea is based on the assumption that the youth is up in his studies.

All the youths accepted under this plan are subjected to a course in the fundamentals of fire fighting, which is given one night a week in the fire house under the supervision of the fire chief or his assistant. All the fire chiefs of the district are of the opinion that these boys be kept from the more dangerous locations at a fire, and are told to always enter a blazing building with an older member. In this same light, older members are asked to "keep an eye" on the youths at the scene of a blaze.

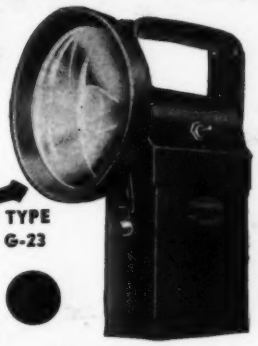
Fire-fighting organizations in the suburban and rural areas have always suffered from the lack of manpower in the daytime, due to the fact that many members are at their jobs and are unable to leave them. This is especially true in the suburban districts of Philadelphia, where many work in the war industries in the city. It is believed that the use of youths will aid the volunteer groups to carry on with the competent work they have done in the past with older men. Past records prove that the best turn-out of firemen is in the hours between 5 p. m. and 8 a. m., while the greatest need for men is between the daytime hours of 8 to 5.

Another advantage in the training of the youths in fire-fighting is the fact that in later years, these same youths will become the leaders in their communities, serving on town councils and as township commissioners, and in these positions will be able to understand the many problems of the volunteer firemen when presented before such governing bodies.

Youths are needed in the fire services of this country and this fact will be proven before the end of this year.

WALTER C. SMITH

One of 70



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These mobile trailers made in 150, 250 and 500 gallon units are powered with gasoline motors, carry 500 ft. of double jacket Fire hose, and may be equipped with 100 gallon booster tanks. Skid mounted units can be furnished. Pumps can be purchased without trailers.
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Our armed forces everywhere are also fighting dirt and disease—frequently more dangerous than bullets. Mobile laundry units are provided, with small gasoline engines as a part of the power equipment. One more "service star" for rugged, dependable Briggs & Stratton engines, now serving our armed forces in many ways.

ONCE again we want to urge every one here back home who owns or operates Briggs & Stratton 4-cycle, air-cooled gasoline engines, to do everything possible to keep them at top efficiency. Not only will extra service be gained, but the critical materials that would be needed in unnecessary repairs will be saved.

Whether these engines are on farms, in industrial plants, on construction or road jobs, or in army camps—they are all doing their part in the war program — and deserve extra care right now.

Keep your Briggs & Stratton gasoline engines clean, properly adjusted, well lubricated, and in repair. Your nearest dealer or Briggs & Stratton Service Station will be glad to help you.

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GASOLINE ENGINES

ADVERTISING INDEX

FIRE ENGINEERING

MAY, 1943

	Page
Acme Protection Equipment Co., Inc.	268
Akron Brass Mfg. Co., Inc.	269
American District Telegraph Co.	236
American Marsh Pumps, Inc.	Inside Back Cover
American Resuscitation Equipment Co	277
American Rubber Mfg. Co.	273
Atlas Safety Equipment Co., Inc.	261
Boyer Fire Apparatus Co.	276
Braxmar Co., Inc., C. G.	272
Briggs & Stratton Corp.	280
Buffalo Fire Appliance Corp.	227
C-O-Two Fire Equipment Co.	234
Cairns & Brother	276
Carbisulphoil Co.	230
Carpenter Mfg. Co.	279
Cover, H. S.	274
E & J Mfg. Co.	231
Eastman Company, Inc., Samuel	277
Eddy Valve Co.	271
Elkhart Brass Mfg. Co.	273
Emerson Co., J. H.	Inside Front Cover
Federal Electric Co.	225
Fog Nozzle Co.	Back Cover
Fulton Bag & Cotton Mills	278
Fyr-Fyter Co.	275
Gamewell Company	240
Gebauer Chemical Co.	274
General Detroit Corp.	275
General Electric Co.	274
Goodall Rubber Co.	278
Hale Fire Pump Co.	270
Homelite Corp.	262
Koehler Mfg. Co.	274
M. & H. Valve & Fittings Co.	279
McIntire Brass Works, F. N.	279
Mack Mfg. Corp.	233
Macmillan Petroleum Corp.	232
Midwestern Mfg. Co.	265
Mine Safety Appliance Co.	272
Oren Fire Apparatus Division of Roanoke Welding & Equipment Co., Inc.	235
Pacific Marine Supply Co.	264
Physicians Oxygen & Hospital Supply Co., Inc.	239
Porter, Inc., H. K.	267
Quaker Rubber Corp.	276
Rockwood Sprinkler Co.	237
Seagrave Corp.	238
Sealand Corp.	279
Smith & Co., D. B.	229
Sterling Siren Fire Alarm Co., Inc.	270
Superior Fire Equipment Corp.	278
United States Motors Corp.	276
Ward LaFrance Truck Corp.	228
Waterous Co.	263
Wentworth-Forman Co., Inc.	278
Wooster Brass Co.	271

Caught in Time With a Booster Line

Your Auxiliary Truck, equipped with a Front Mounted Pump and Small Tank, together with other accessories, can handle the large majority of your alarms.

Use it on all alarms and hold your heavier, more expensive apparatus in reserve. Your larger pumper can be connected to a hydrant upon arrival and used if necessary.

The truck shown below has been in service four years in a city of over 60,000 population. It has complete First-Aid equipment, in addition to other accessories, and by being first to every fire, it has, unaided, put out over 80% of all fires during this four-year period. This unit is also used on all grass fires because of its mobility and own water supply.

Further details as to the several sizes and models of pumps suitable for this application will be given on request. We can also furnish a list of accessories carried on this particular truck, giving sources of supply for accessories.

AMERICAN-MARSH PUMPS, INC.

MAKERS OF BARTON-AMERICAN FRONT AND MIDSHIP MOUNTED PUMPS

BATTLE CREEK, MICHIGAN . . . . . PUMPS AND PUMPS ONLY SINCE 1873

CRASH TRUCK EQUIPPED WITH WATER FOGNOZLS

DEMONSTRATES RAPID EXTINGUISHMENT

SPEEDY ACTION—Spurting jets of fog, a newly developed airport fire crash truck was demonstrated before military men yesterday at Santa Fe Springs. One simulated plane fire was extinguished in 10 seconds, another roaring blaze in six seconds. Times photo

Fog-Throwing Fire Truck Tested for Army's Use

SANTA FE SPRINGS, April 7.—Before the critical eyes of military men, representatives of foreign consular offices and fire-fighting experts, a new airport fire crash truck designed for the Army Air Forces today put out a simulated roaring airplane fire almost before it arrived at the scene.

Man-made fog is the answer. And speed, too.

Nozzles Mounted

The method employed by the truck in battling an aircraft fire is to start fighting the blaze with water fog through nozzles mounted on the truck even as the burning plane is approached.

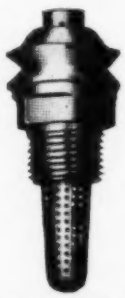
Today an oil fire simulating the flaming wreckage of a plane was extinguished in 10 seconds. Under even more practical conditions the fire crash truck, on its second attempt, put out the blaze in six seconds.

As the vehicle closes in, the mechanically operated turret nozzles send a water fog over the plane. The rescue crew leaps from the truck, enters the plane while throwing an enveloping cloud of water fog ahead of them. The truck also contains the necessary items to produce the fog and facilitate fire fighting and rescue work.

Fog Effective

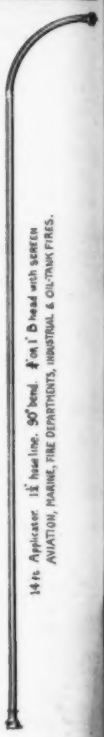
Water fog, developers of the truck said, will extinguish 30 times more fire area than will water. It chills burning gases by absorbing heat, creating steam, increasing humidity and displacing oxygen, operating so swiftly and surely the fire brings about its own destruction by drawing the fog into itself on the draft it has created.

A 1" PORTABLE B FOGNOZL IS USED ON THE TURRET APPLICATOR. DELIVERY 55 g. p. m. at 100 lb. p. s. i.



2--½" B FOGNOZLS ARE USED ON TWO 1" HOSE LINES ON EITHER SIDE OF FIRE.

THESE FOGNOZLS ARE ALSO MOUNTED ON APPLICATORS. DELIVERY 15 g.p.m. at 100 lb. p.s.i.



14 ft. Applicator 12' base line. 90° bend. 4" or 1" B head with SCREEN AVIATION, MARINE, FIRE DEPARTMENTS, INDUSTRIAL & OIL-TANK FIRES.

FOGNOZL FACTS

PREPARE NOW BY ACCUMMULATING DATA ON THIS NEW WATER FOGNOZL FIRE-FIGHTING METHOD THAT HAS REVOLUTIONIZED OLD METHODS. FOGNOZL ACCOMPLISHMENTS ARE DAILY EMPHASIZED BY OUR ARMED FORCES. ● A BROCHURE OF **FOGNOZL FACTS** WILL BE SENT, WITHOUT OBLIGATION, TO THOSE ENGINEERS OR EXECUTIVES WHO WILL SO REQUEST IT ON THEIR OFFICIAL OR DEPARTMENT LETTERHEAD.

IN FOLDER CONVENIENT FOR YOUR FILE.

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2 OF THESE 1½ 3A FOGNOZL TIPS ARE MOUNTED AT EACH END OF FRONT BUMPER TO PROTECT THE TRUCK AND KNOCK DOWN HEAT.

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